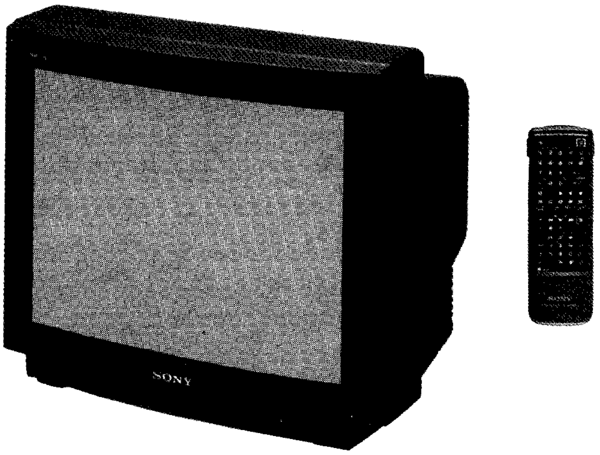
KV-X2140B/X2540B/X2940B

RM-816

SERVICE MANUAL

French Model

KV-X2140B
Chassis No. SCC- F08P-A
KV-X2540B
Chassis No. SCC- F08Q-A
KV-X2940B
Chassis No. SCC- F08N-A



AE-1C CHASSIS

MODELS OF THE SAME SERIES	
KV-M2530B	KV-X2150/X2151B
KV-M2520B	KV-A2910B/A2911B
KV-A2110B/A2510B	KV-C2120B/C2121B

[KX-X2140B/X2540B/X2940B]

SPECIFICATIONS

Television system.	B/G/H, L, I
Colour system.	PAL/SECAM,NTSC3.58,NTSC4.43
Stereo system.	GERMAN stereo.
Channel coverage.	VHF: E2-E12 UHF: E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10. VHF : F02-F10 UHF : F21-F69 CABLE : B-Q VHF : A-I UHF : B21-B69
Picture tube.	Hi-Black Trinitron tube Approx. 55 cm [21 inch] (Approx. 51 cm picture measured diagonally) 100°-degree deflection Approx. 63 cm [25 inch] (Approx. 59 cm picture measured diagonally) 110°-degree deflection Approx. 72 cm [29 inch] (Approx. 68 cm picture measured diagonally) 110°-degree deflection
Rear Input/Output Sockets :	⊖ 1/21-pin Euroconnector: (CENELEC standard) inputs for Audio/ Video signals and RGB. Outputs for Audio and Video signals. ⊟ 2/ ⊟ 21-pin Euro connector: inputs Audio / Video signals and S-Video.
Front Input/Output Sockets.	⊖ Audio output (variable) - phono jacks ⊟ Video input - phono jack. ⊕ Audio inputs - (L,R) phono jacks. ⊟ S-Video input - 4pin DIN. Headphone jack output : stereo mini jack.
Sound output.	15W+15W (Music)
Power consumption.	87Wh (KV-X2140B) 101Wh (KV-X2540B) 109Wh (KV-X2940B)
Dimensions.	Approx. 513 x 438 x 474mm (w/h/d) 21inch Approx. 575 x 489 x 480mm (w/h/d) 25inch Approx. 656 x 554 x 512mm (w/h/d) 29inch
Weight.	Approx. 25.5kg 21inch Approx. 35kg 25 inch Approx. 52kg 29inch
Supplied accessories.	RM-816 Remote Commander (1) IEC designation R6 batteries (2)

[RM-816]

Remote control system	infrared control
Power requirements.	3V dc 2 batteries IEC designation R6 (size AA)
Dimensions.	Approx. 75 x 221 x 23mm (w/h/d)
Weight.	Approx. 230g (including batteries.

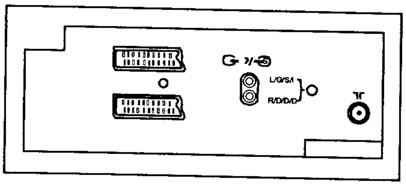
Design and specifications are subject to change without notice.

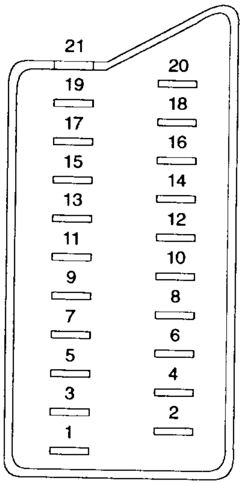
MICROFILM

TRINITRON® COLOR TV

SONY®

21 - pin Euro Connector Configuration





21 pin connector (1. 2.)

Pin No	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level : 0.5Vrms Output impedance : less than 1Kohm. *
2	○	○	Audio inout B (right)	Standard level : 0.5Vrms Input impedance : More than 10Kohm. *
3	○	○	Audio output A (left)	Standard level : 0.5Vrms Output impedance : less than 1Kohm. *
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	StAndard level : 0.5Vrms Input impedance : more than 10Kohms. *
7	○	●	Blue input	0.7V +/- 3dB 75ohms positive
8	○	○	Function select (AV control)	High state (9.5 - 12 V) : Part mode Low state (0 - 2 V) : TV mode Input impedance : more than 10Kohms Input capacitance : Less than 2nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal : 0.7V +/- 3dB 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14			Ground (blanking)	
	○	—	Red input	0.7V +/- 3dB. 75ohms. positive
	—	○	(S signal) chroma input	0.3V +/- 3dB. 75ohms. positive
15 16	○	●	Blanking input (Ys signal)	High state (1 - 3 V) Low state (0 - 0.4 V) Input impedance : 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V +/- 3dB. 75ohms. positive Sync : 0.3V (-3. +10dB)
	○	—	Video input	1V +/- 3dB. 75ohms. positive Sync : 0.3V (-3. +10dB)
20	—	○	Video Input /Y (S signal)	1V +/- 3dB. 75ohms. positive Sync : 0.3V (-3. +10dB)
21	○	○	Common ground (plug shield)	

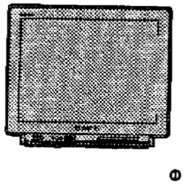
○ connected ● unconnected (open) * at 20Hz - 20kHz

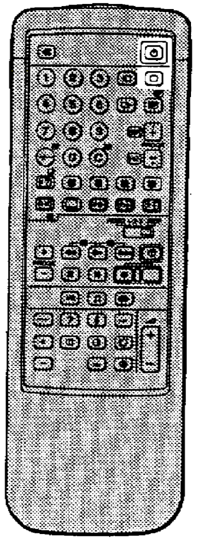
4 pin connector [ ]

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3db 75ohm, positive Sync 0.3V
4	C (S signal) input	0.3V ± 3db 75ohm positive

Instructions shown here are partial excerpts from the Instruction Manual.
The pages of the Instruction Manual are included here in original state.

1-1. Switching on/off





After you have completed the basic preparation your TV is ready to be connected to the mains power supply (220/240V AC, 50Hz).

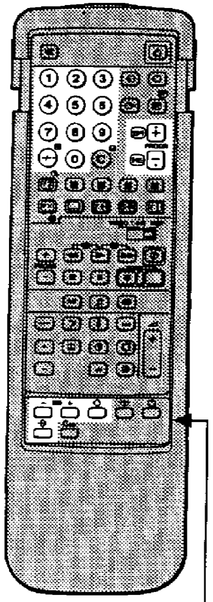
How to turn the TV on

Action	Result
Press ⏻ on the TV.	The TV will turn on. **Note:** If the screen remains blank, the TV may be in the standby mode. Press ▢ to switch it on.

How to turn the TV off

A Temporarily	
Press ⏻ to enter standby mode.	The TV will be in standby. To return to the TV mode press ▢
B Completely	
Press ⏻ on the TV.	The TV will turn off.

1-2. Presetting



Note: These buttons should be used in preset mode only.

After you have installed this TV you need to preset TV channels.

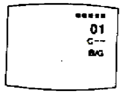
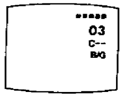
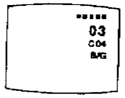
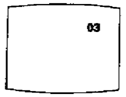
TV stations broadcast their channels at certain frequencies. You must preset these channels to programme numbers on this TV before you can watch the TV programmes.

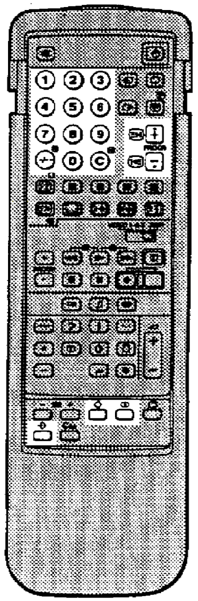
There are 60 spaces for storing these channels.

Slide open the full function side of the remote commander to reveal preset buttons.

How to preset channels automatically

If you are unfamiliar with the channel numbers of the stations you wish to preset, use "How to preset channels automatically". If you are familiar with the channel numbers refer to "How to preset T.V. channels directly".

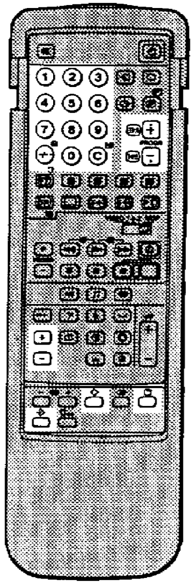
Action	Result
1 Press ⇨ to enter the preset mode.	 The programme number will start flashing.
2 Press PROGR + or - or the number buttons to select the programme number to which you want to preset channels. **Note** To select a double-digit number, use the -/-- button. For example, if you want to choose 23, press -/--, 2, and then 3.	 The programme number changes
3 Press ▦ + or - once to search forward or backward for channels.	 When a channel is tuned in, the search will stop. **Note** If you want to skip a channel, press ▦ + or ▦ -.
4 Press ◇ if you want to store the channel which is tuned in. Press ⇨ to exit preset mode without storing.	 The channel is now stored and you have returned to TV mode.
5 Repeat steps 1 to 4 to store the other channels.	



How to preset channels directly

Action	Result
1 Press ⇩ to enter the preset mode.	▪▪▪▪▪ 03 C-- B/G The programme number will start flashing.
2 Press PROGR +/– or the number buttons to select the programme number on which you want to preset a channel. PROGR ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ -/-- ⓪ **Note** To select a double-digit number, use the -/-- button. For example, if you want to choose 23, press -/--, 2, and then 3.	▪▪▪▪▪ 01 C32 B/G The programme number changes.
3 Press C. If you want to select a cable channel, press C twice. Ⓒ	▪▪▪▪▪ 01 C-- B/G The indication "C--" ("S--" for a cable channel) starts flashing on the display.
4 Select the channel number with two digits (e.g. 04) by pressing the number buttons. ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⓪ **Note** Press the second number within 5 seconds after the first one, otherwise the operation will be cancelled.	▪▪▪▪▪ 01 C04 B/G The channel number changes. **Note** If you have made a mistake the letter "X" will appear. Repeat step 4 again.
5 Press ◇ to store the channel which is tuned in. Press ⇩ to exit the preset mode without storing.	01 The channel is now stored and you have returned to TV mode.

Repeat steps 1 to 5 to store the other channels.



How to Name a Station

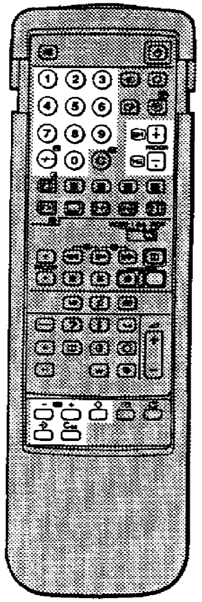
You can use up to five characters to "name" a channel or station (i.e. BBC1).

Action	Result
1 Select a programme number you want to name by pressing the PROGR +/– or the number buttons PROGR ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ -/-- ⓪	08 The selected programme number will appear.
2 Press ⇩.	▪▪▪▪▪ 01 C-- B/G The programme number starts flashing.
3 Press ▭.	_▪▪▪▪ 08 C31 B/G The first column of the station name indication will start flashing.
4 Press + or – to select a letter in the alphabet, a number, or a blank space.	S▪▪▪▪ 08 C31 B/G The letters of the alphabet, numbers and the space ("-") will appear sequentially.
5 Press ▭.	S_▪▪▪ 08 C31 B/G The first character is now set and the second column will start flashing.
6 Repeat steps 4 and 5 to set each letter.	
7 Press ◇.	SONY 08 The channel is now stored and you have returned to TV mode.

How to tune in a channel temporarily

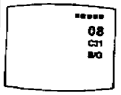
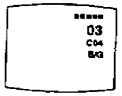
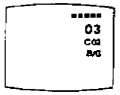
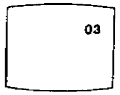
You can tune a channel in temporarily, if it has not been preset.

Action	Result
1 Press C. For cable channels, press C twice.	The indication "C" ("S" for cable channels) appears on the screen.
2 Select the channel number with two digits by pressing the number buttons (e.g. for channel 4, first press 0, then 4.)	The channel is received, but it is not stored to any programme number.



How to Skip Programmes

Using the PROGR +/– buttons you can skip unused programme channel numbers. However, the skipped numbers may still be called up using the number buttons.

Action	Result
1 Press ⇾ to enter the preset mode.	 The programme number will start flashing.
2 Select the programme number that you want to skip by pressing PROGR +/– or the number buttons.	 The programme number changes.
3 Press Coo.	 The lowest channel number appears under the programme number.
4 Press ◇.	 The channel is now stored and you have returned to TV mode.
Repeat steps 1 to 4 to skip other programme numbers.	

How to Fine Tune Manually

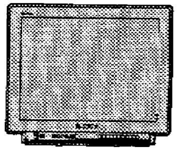
If the picture is distorted, you can fine tune the channel manually.

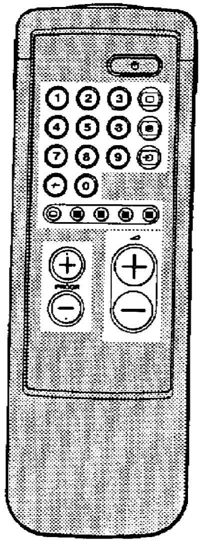
Action	Result
Press ⊞ + or – repeatedly until the picture looks normal.	The indication ← F → appears on the screen.
Press ⇾ to enter the preset mode.	The programme number starts flashing.
Press ◇.	The fine tuning is stored.

Note: The automatic fine tuning will function again when you preset the channel once more.

1-3. Basic TV operation

Note: Press ⊥ on door to open.

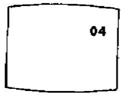




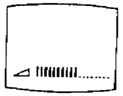
This section introduces you to the basic control functions which are available on the simple side of the remote commander.

How to Select Programmes

Before you can select programmes make sure that you have preset channels, refer to page 29.

Action	Result
Press PROGR +/– or the number buttons. To select a double-digit number, use the -/-- button. For example, if you want to choose 23, press -/--, 2, and then 3.	 The selected programme is displayed.

How to Adjust the Volume

Action	Result
Press ◁ + or –.	 The volume markers will appear.

How to Use Additional Functions

How to operate with the buttons on the TV

You can also select programmes and adjust the volume using the P→◁→⊕ and →•← +/– buttons on the front of the TV.
For operation, first press the P→◁→⊕ button repeatedly so that the P (for programme) or ◁ (for volume) indication appears on the screen, and then adjust with the →•← +/– buttons.

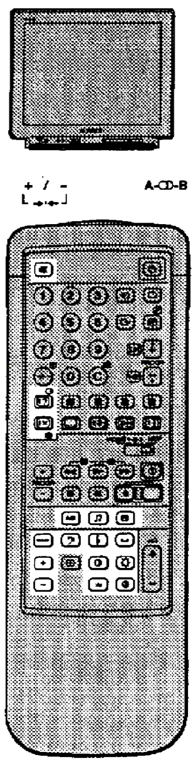
How to view the teletext

Press ⊜. To return to the TV mode, press ▢.
For details about the teletext operation, refer to page 33.

How to view the video input picture

Press ⊕ To return to the TV mode, press ▢. For further details, refer to page 36.

1-4. Advanced TV operation



This section shows you how to use convenient features and how to adjust the picture and sound to your taste.
Use the full-function side of the Remote Commander.

How to use on-screen display and special sound features

You can enjoy the following convenient features.

How to	Action	To resume normal picture/sound
Display on-screen indications	Press ⊕.	Indications disappear after some seconds
Display programme numbers	Press ⊕ twice	Press ⊕ twice again.
Mute the sound	Press 🔇.	Press 🔇 again.
Select a language in bilingual programmes.	Press A/B. The selected mode of the A-⊂⊃-B indicator on the TV lights up.	Press A/B.
Set the sound to music listening position	Press ♫.	Press ♫ again.
Use the space sound (special acoustic effect)	Press ⊛	Press ⊛ again.
Request the time	Press ⊙.	Press ⊙ again.

How to adjust the picture and sound

Although the picture and sound have been adjusted at the factory, you might want to adjust them to your own taste. To do this, please follow the steps.

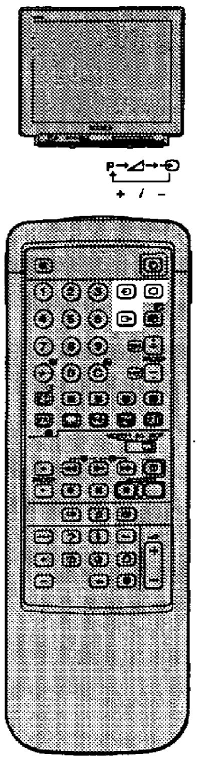
For picture adjustment

To Adjust:	Press:	Then:	Result: (– ←→ +)
Picture:			
Colour Intensity	◕	⊞ ⊟	Less ←→ More
Picture Contrast	◑		Less ←→ More
Brightness	☼		Dark ←→ Light
Hue (for NTSC only)	⚖		Greenish ←→ Redish
Sound:			
Bass	𝄢	⊞ ⊟	Less ←→ More
Treble	𝄞		Less ←→ More
Balance	⋈		More Left/More Right

To reset the picture and sound to factory set levels press →•←.

On the set:
Press →•← +/– buttons simultaneously.

1-5. Optional connections/operations



How to view the video input picture

You can view the picture of video equipment connected to the input terminals by selecting the input mode.

Operation

Action	Result
Press ⇥ repeatedly to select the desired input.	⇥1 — Symbol for the selected input appears. (See the table below.)
To return to the TV mode, press the ▢ button.	

Input modes

Symbol	Result
⇥1	Audio/video input through the ⇥ connector.
⇥	RGB input through the ⇥ connector.
⇥2	Audio/video input through the ↦ 2/⇥ connector.
⇥2	S video input (from a VTR equipped with an S video output) through the ↦ 2/⇥ connector.
⇥3	Audio/video input through ⇥ and ⇥ jacks on the front.

You can also select the input mode using the P→⊿→⇥ button on the TV.
In this case, first select ⇥ and then press +/– buttons to select the input.

How to select the Output

The ↦ 2/⇥ connector outputs four kinds of audio/video signals. You have to select one of them as follows.

Operation

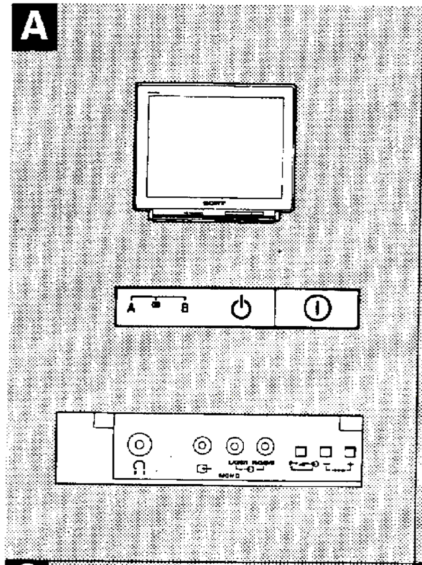
Action	Result
Press ↦ repeatedly to select the desired input	1↦ — Symbol for the selected output appears. (See the table below.)

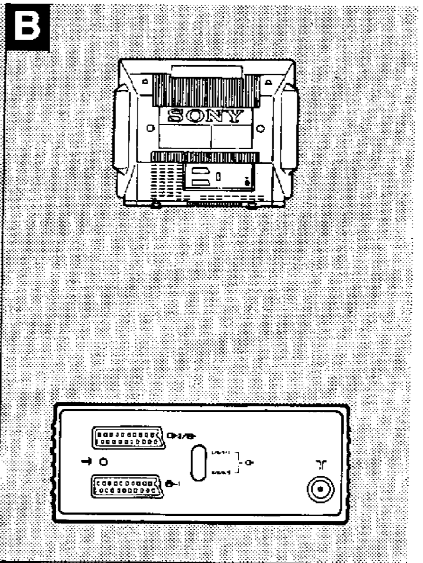
Output modes

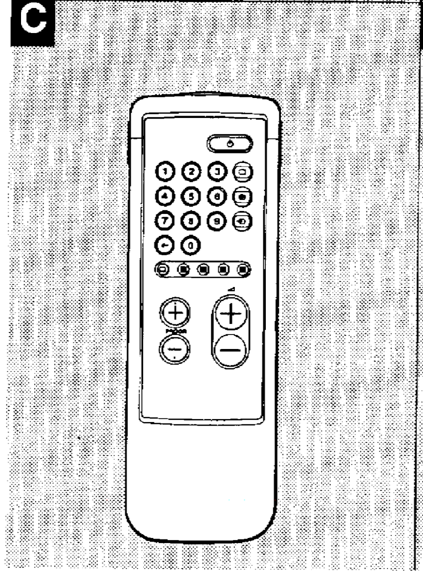
Symbol	Output from
1 ↦	The audio/video signal from the ⇥1 connector
2 ↦	The audio/video signal from the ↦ 2/⇥ connector
3 ↦	The audio/video signal from the ⇥ ⇥ connectors.
TV ↦	The audio/video signal from the T aerial terminal.

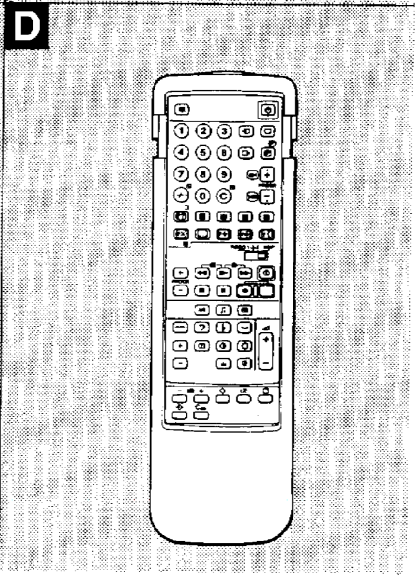
1-6. Additional information

Parts Identification









This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to the pages given next to each description.

A TV set – Front

Sign	Name	Refer to page
Ⓘ	Main power switch	
⏻	Standby indicator	
A-ⓄⓄ-B	Bilingual A/B indicators	
∩	Headphones jack (stereo minijack)	
⊖⊖	Input jacks (video /video/audio)	
P→◿→⊖	Function selector (Programme/ volume/input)	
- / +	Adjustment buttons for function selector	

C TV set – Rear

Sign	Name	Refer to page
⊖•2/⊖	21-pin Euro-AV connector (S-video/video input, TV/video output)	
⊖	21-pin Euro-AV connector (RGB/ video input, TV output	
⊖•	Audio output jacks (phono jacks)	
╥	Aerial terminal (IEC type)	

D Remote Commander – simple side

Sign	Name	Refer to page
⊖	Input mode selector	
⊜	Teletext button	
▭	TV mode selector	
⏻	Standby button	
1,2,3,4,5, 6,7,8,9, and 0	Number buttons	
-/--	Double-digit entering button	
◿ +/-	Volume control button	
PROG +/-	Programme selector	

B Remote Commander – full function side

Sign	Name	Refer to page
🔇	Mute on/off button	
⏻	Standby button	
1,2,3,4,5, 6,7,8,9, and 0	Number buttons	
⊖	Input mode selector	
▭	TV power on/TV mode selector button	
⊖•	Output mode selector	
⊜	Teletext button	
♫	Music button	
A/B	Language selector in bilingual programme	
-/--	Double-digit entering button	
C	Direct channel entering button	
⊕	Space sound button	
◎	Request time display	
▣ ▣ ▢ ▣ ▣ ▣ ▣ ▣ ▣ ▣	Teletext operation buttons	
■ ■ ■ ■	Toptext buttons	
⊕	On-screen display button	
→•←	Picture and sound adjustment reset button	
◿ +/-	Volume control	
PROG +/-	Programme selector	
◑ ☼ ◕ ⩎ ◿ ♪ ♩ +/-	Picture and sound controls	
VIDEO 1/2/3, MDP	Video equipment selector	
◀◀ ▶ ▶▶ ■ II ●	Video equipment operation buttons	
Coo	Programme number clear button	
⇳	Channel preset button	
- ⊞ +	Tuning buttons	
◇	Channel store button	
▭	Station label button	

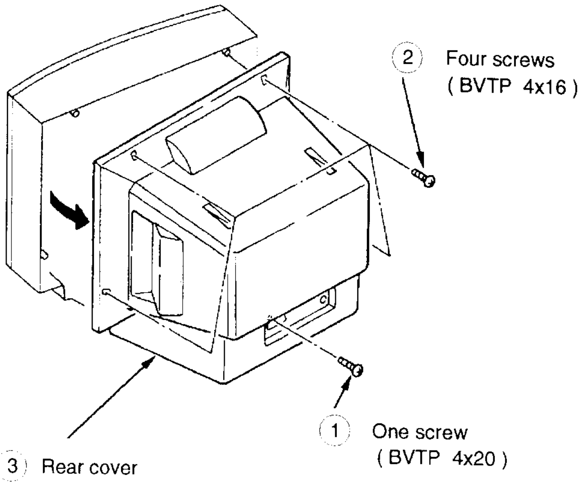
1-7. Troubleshooting

Here are some simple solutions to the problems which affect the picture and sound.

Problem	**Solution**
No picture (screen is dark), no sound	· Plug the TV in. · Press ⏻ on the TV. (If ⏻ indicator is on, press ▢ or the programme number on the Remote Commander.) · Check the aerial connection. · Check if the selected video source is on. · Turn the TV off for 3 or 4 seconds and then turn it on again using ⏻.
Poor or no picture (screen is dark), but sound good	· Adjust the picture with ☼, ◑, ◕, and + buttons.
Good picture but no sound	· Press ⊿ +. · Disconnect the headphones. · If 🔇 is displayed on the screen, press 🔇.
No colour for colour programmes	· Press →•← on the Remote Commander.
If you continue to have these problems, have your TV serviced by qualified personnel. Never open the casing yourself.	

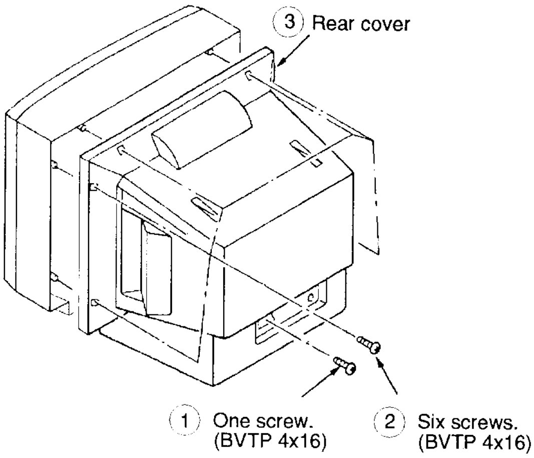
SECTION 2
DISASSEMBLY

2-1-1. REAR COVER REMOVAL (21 inch, 25 inch)

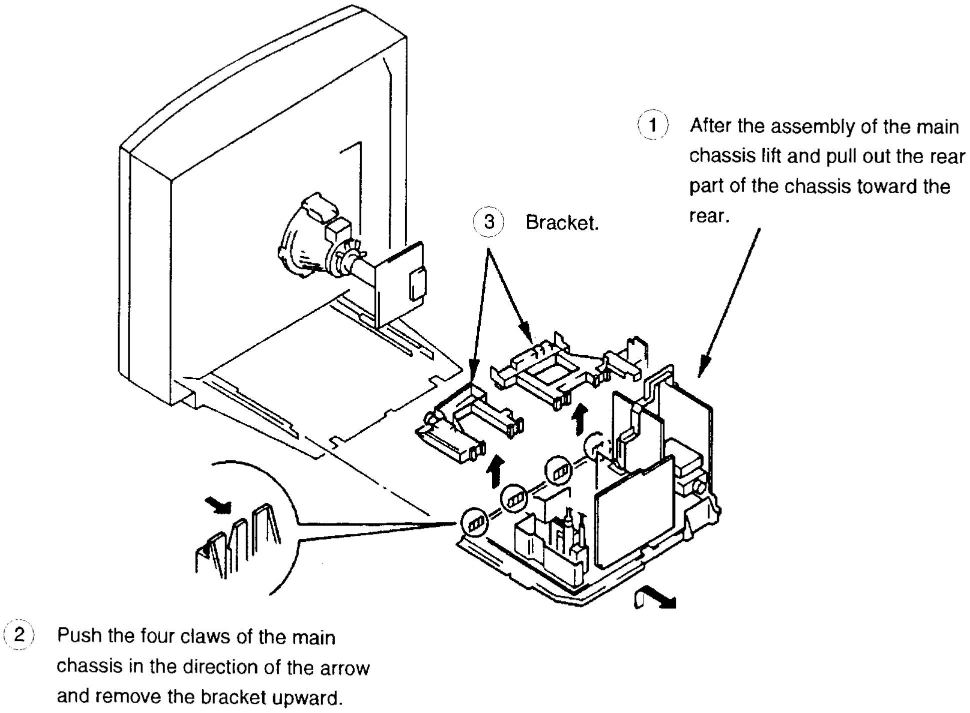

② Four screws
(BVTP 4x16)
① One screw
(BVTP 4x20)
③ Rear cover

1) Pull the rear cover and turn the right speaker leads fixed by the pathlock on the chassis.
2) When attaching the rear cover for the speaker leads by pathlock.

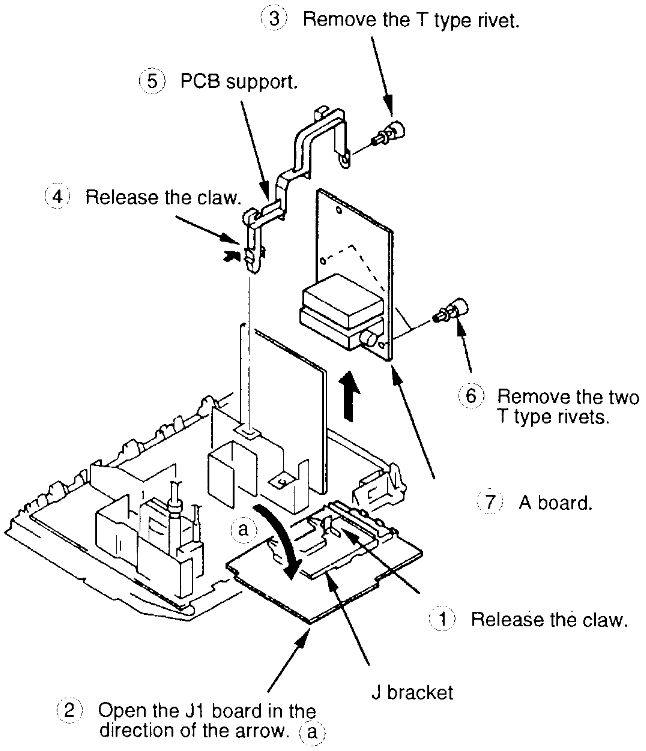
2-1-2. REAR COVER REMOVAL (29 inch)


③ Rear cover
① One screw.
(BVTP 4x16)
② Six screws.
(BVTP 4x16)

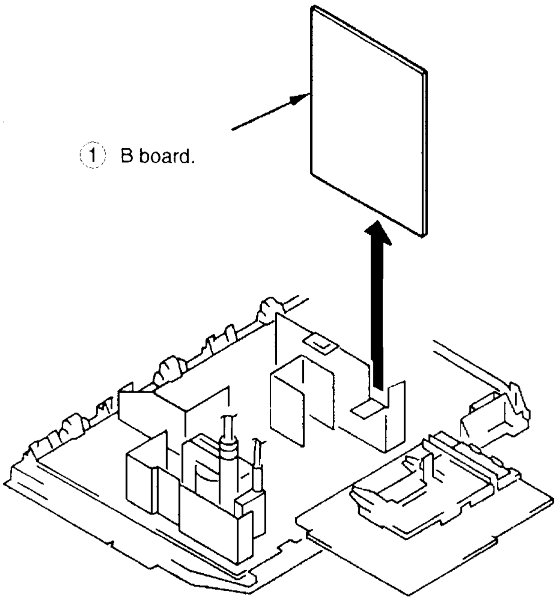
2-2. CHASSIS ASSEMBLY REMOVAL


① After the assembly of the main chassis lift and pull out the rear part of the chassis toward the rear.
③ Bracket.
② Push the four claws of the main chassis in the direction of the arrow and remove the bracket upward.

2-3. A AND J1 BOARD REMOVAL


③ Remove the T type rivet.
⑤ PCB support.
④ Release the claw.
⑥ Remove the two T type rivets.
⑦ A board.
a
① Release the claw.
J bracket
② Open the J1 board in the direction of the arrow. ⓐ

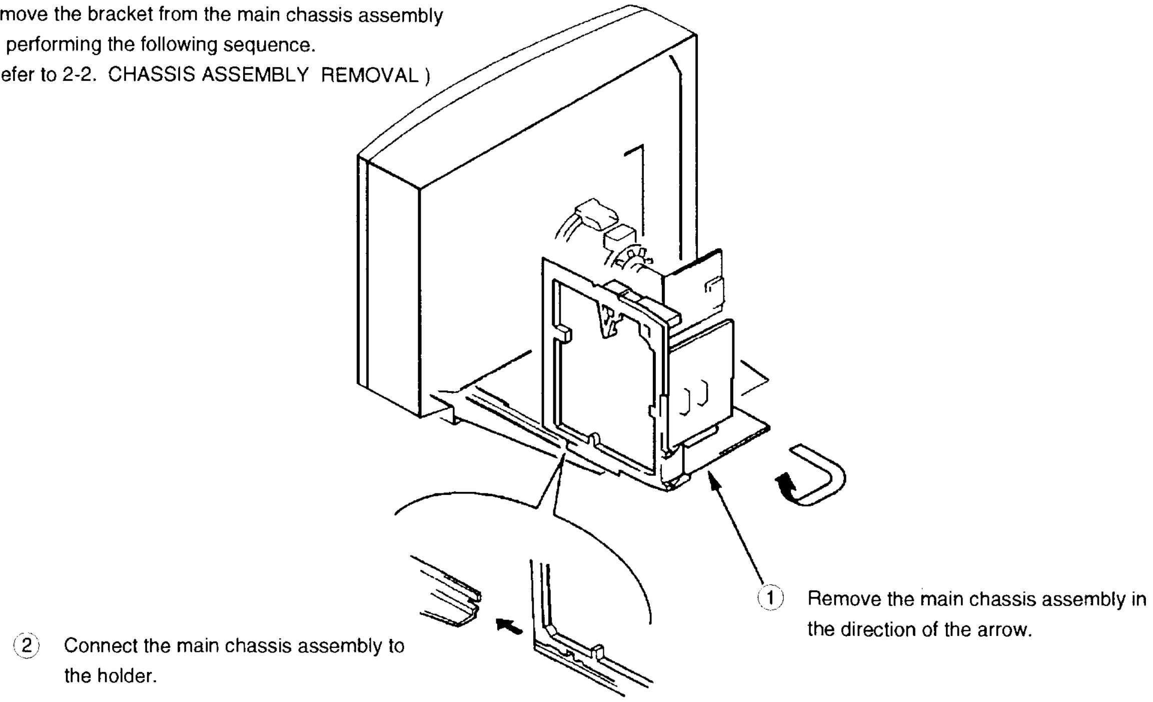
2-4. B BOARD REMOVAL



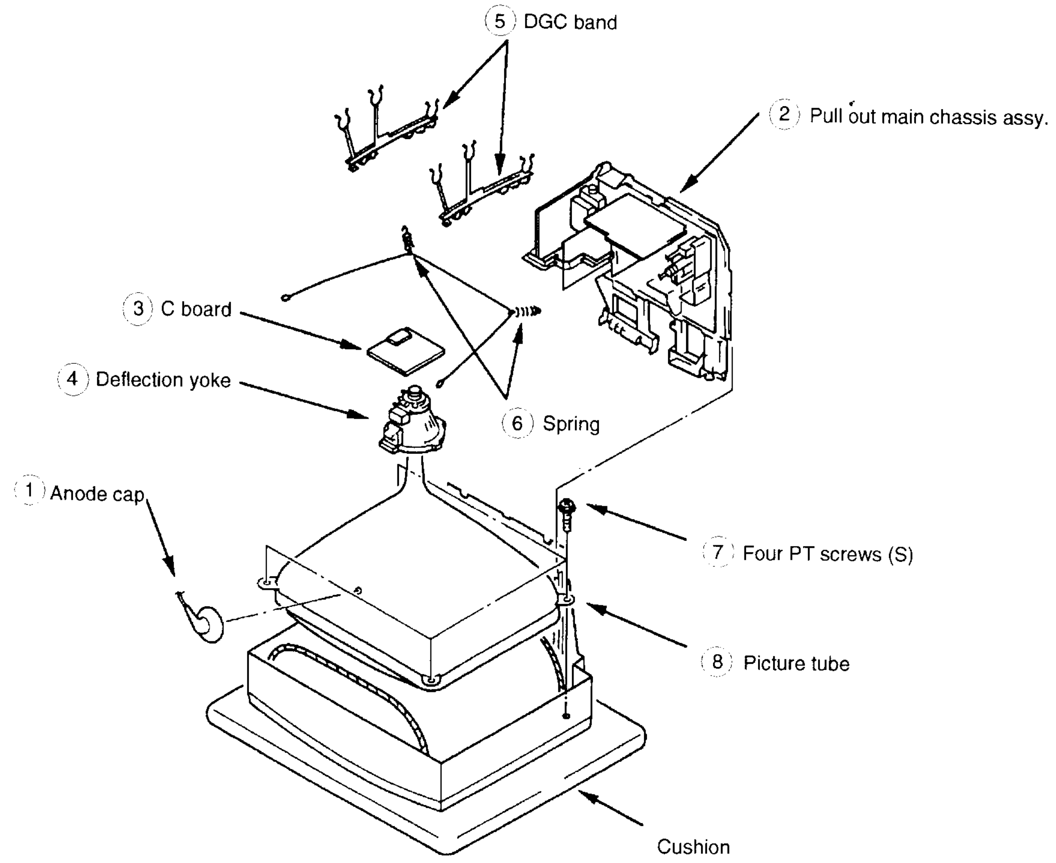
Note : 10 pin extension cable (S-0945-001-0)

2-5. SERVICE POSITION

※ Remove the bracket from the main chassis assembly by performing the following sequence.
(Refer to 2-2. CHASSIS ASSEMBLY REMOVAL)


① Remove the main chassis assembly in the direction of the arrow.
② Connect the main chassis assembly to the holder.

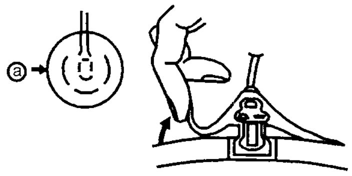
2-6-1. PICTURE TUBE REMOVAL (21 inch)


⑤ DGC band
② Pull out main chassis assy.
③ C board
④ Deflection yoke
⑥ Spring
① Anode cap
⑦ Four PT screws (S)
⑧ Picture tube
Cushion

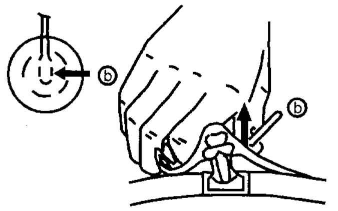
• REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

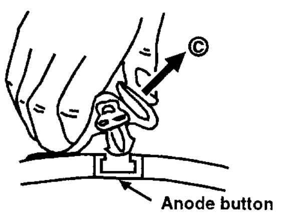
* **REMOVING PROCEDURES.**



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ


ⓒ
Anode button

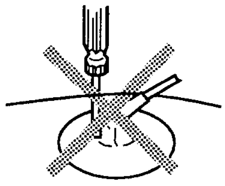
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

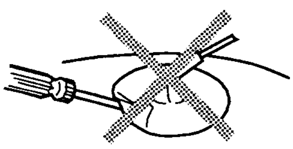
• HOW TO HANDLE AN ANODE-CAP

① Don't damage the surface of anode-cap with sharp shaped material !

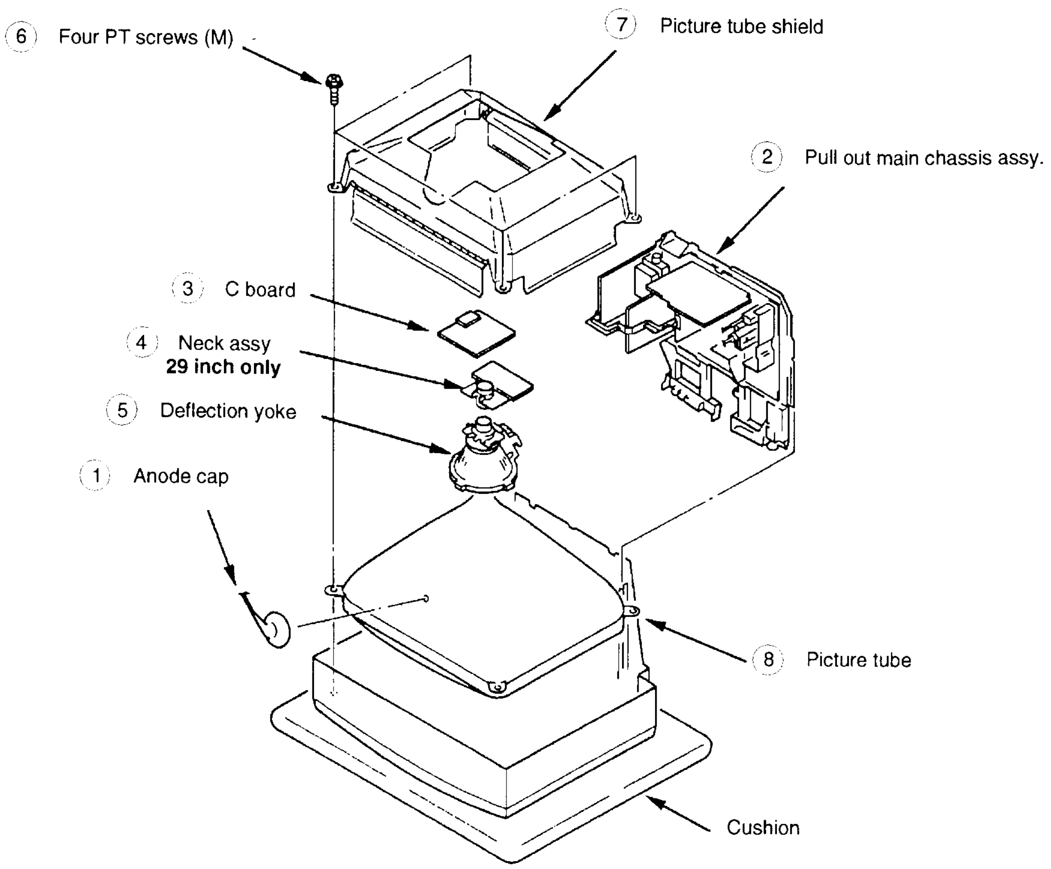
② Don't press the rubber hardly not to hurt inside of anode-caps !
A metal fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly !
The shatter-hook terminal will stick out or hurt the rubber.





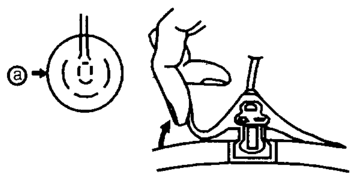
2-6-2. PICTURE TUBE REMOVAL (25 inch, 29 inch)


⑥ Four PT screws (M)
⑦ Picture tube shield
② Pull out main chassis assy.
③ C board
④ Neck assy
29 inch only
⑤ Deflection yoke
① Anode cap
⑧ Picture tube
Cushion

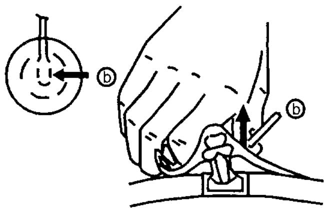
• REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

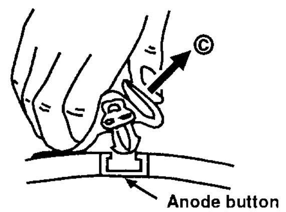
*** REMOVING PROCEDURES.**



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ



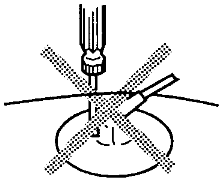
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ

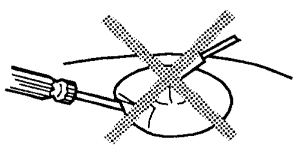

ⓒ
Anode button

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

• HOW TO HANDLE AN ANODE-CAP

1. Don't damage the surface of anode-cap with sharp shaped material. !
2. Don't press the rubber hardly not to damage the inside of anode-cap. !
   A metal fitting called as shatter-hook terminal is built in the rubber.
3. Don't turn the foot of rubber over hardly !
   The shatter-hook terminal will stick out or damage the rubber.





SECTION 3
SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :

◑ Contrast 80%
(or remote control normal)
☼ Brightness 50%

- Carry out the following adjustments in this order:

1. Beam landing
2. Convergence
3. Focus
4. White balance

Note: Testing equipment required
1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparation: (21 inch, 25 inch)

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast } normal
   Brightness }
2. Position neck ass'y as shown in Fig. 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.
   (see Fig. 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Fig. 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
   (See Fig. 3-4.)

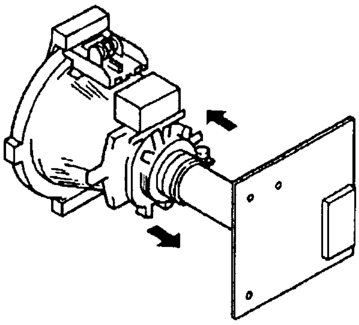


Fig. 3-1

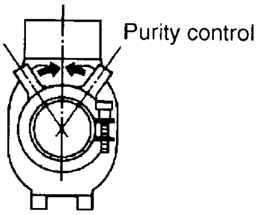

Purity control

Fig. 3-2

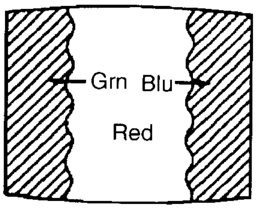


Fig.3-3

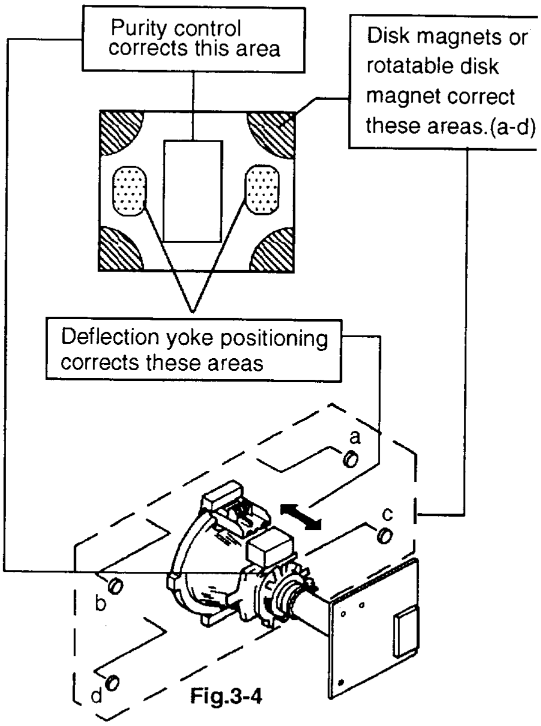

Purity control corrects this area
Disk magnets or rotatable disk magnet correct these areas.(a-d)
Deflection yoke positioning corrects these areas
a
b
c
d

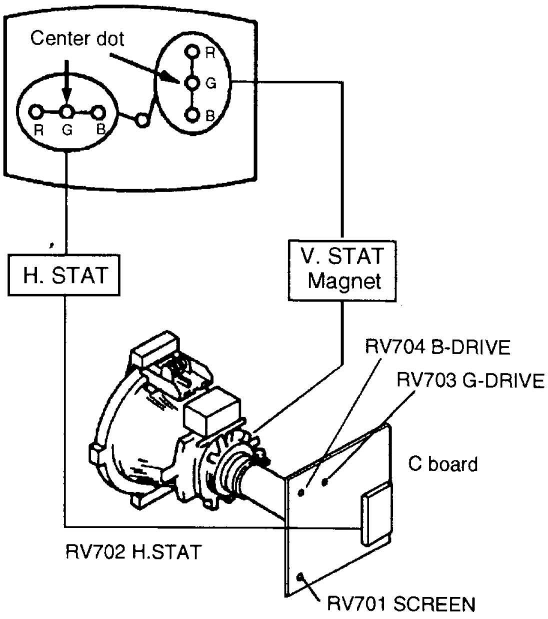
Fig.3-4

3-2. CONVERGENCE

Preparation:

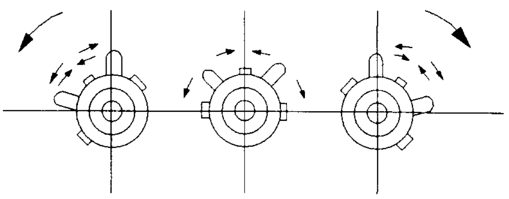
- Before starting, perform FOCUS, H.SIZE, and V.SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence.

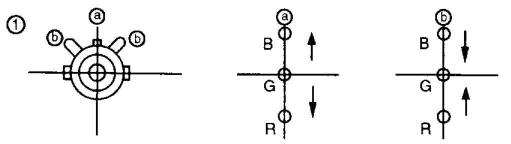

Center dot
R
G
B
R G B
H. STAT
V. STAT Magnet
RV704 B-DRIVE
RV703 G-DRIVE
C board
RV702 H.STAT
RV701 SCREEN

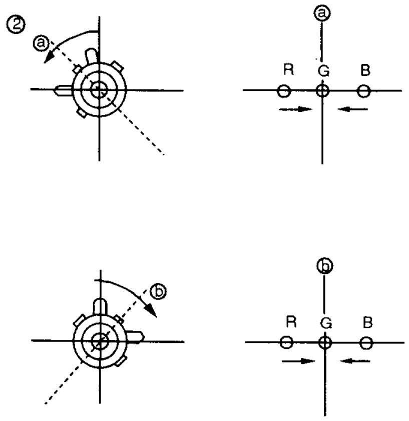
1. Adjust H.STAT VR to converge red, green, and blue dots at the center of the screen. (Horizontal movement)
2. Adjust V.STAT magnet to converge red, green, and blue dots at the center of the screen. (Vertical movement)
3. If the red, green and blue dots do not converge at the screen center with the H.STAT VR and V.STAT magnet as shown below. (In this case, HSTAT VR and V.STAT magnet effect each other.)

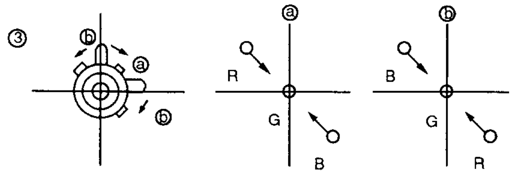
- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4 If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, the green, and blue points move as shown below.

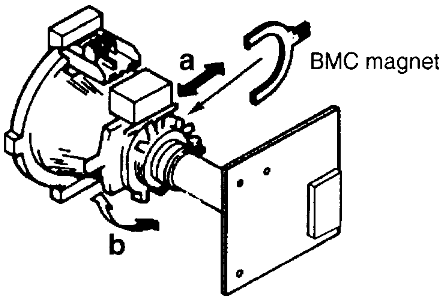






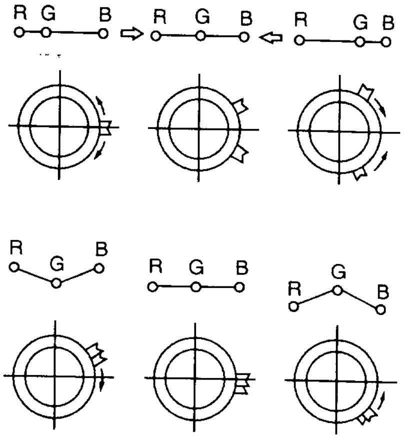
[21 inch only]

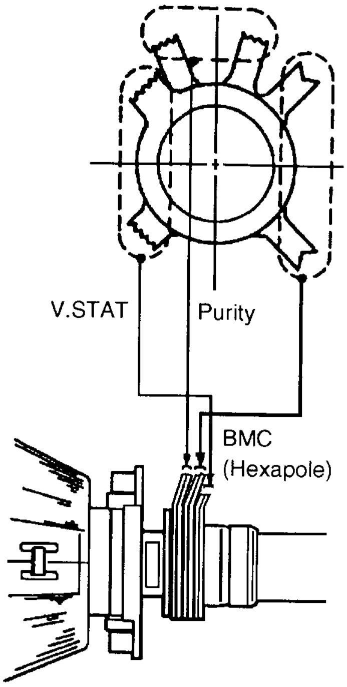
If the red and blue dots do not converge with the green dots, perform the following steps.
Move BMC magnet (a) to correct insufficient H.STAT convergence.
Rotate BMC magnet (b) to correct insufficient V.STAT convergence.
In either case, repeat Beam Landing Adjustment.


a
BMC magnet
b

(KV-25 inch only)

- Operation of BMC (Hexapole) Magnet


R G B
R G B
R G B
R G B
R G B
R G B

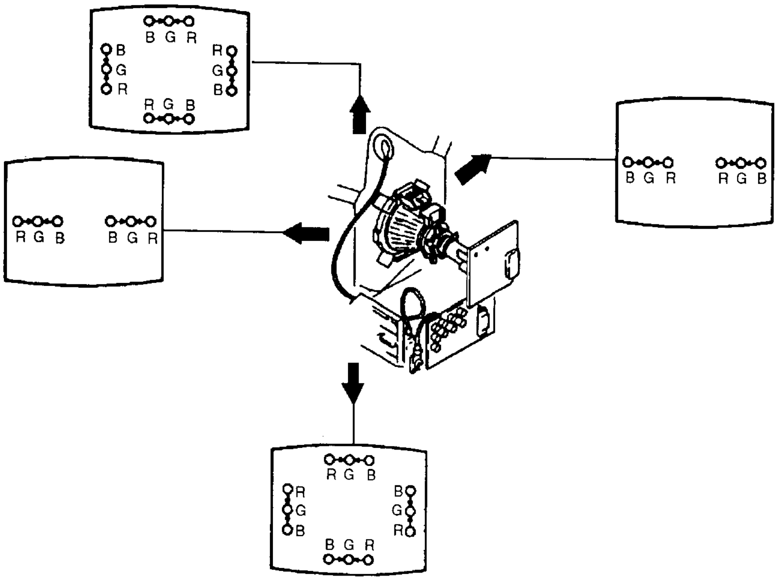

V.STAT
Purity
BMC
(Hexapole)

- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of the screen by moving the dots in the horizontal direction).

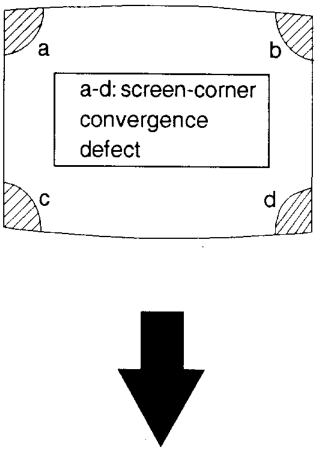
(2) Dynamic convergence adjustment Preparation:

Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

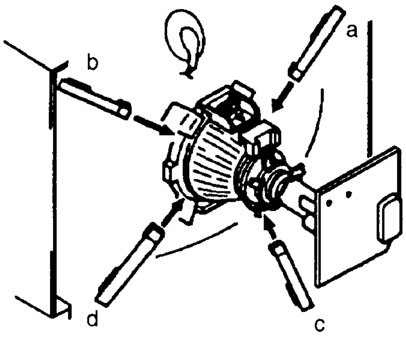
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.


B G R
B
G
R
R
G
B
R G B
R G B
B G R
B G R
R G B
R G B
R
G
B
B
G
R
B G R

(3) Screen corner convergence



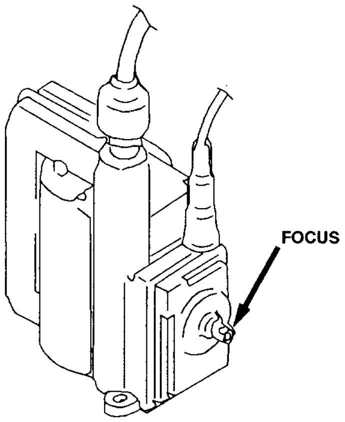
Install the permalloy assembly for the section with faulty corner convergence.



Permalloy ass'y. correction.

3-3. FOCUS

Adjust FOCUS so that the whole screen is in best focus.



3-4. SCREEN (G2) and WHITE BALANCE

[Screen G2 setting]

1. Input dot signal from the pattern generator.
2. Set the picture BRIGHTNESS control to minimum level.
3. Apply 170V DC to the cathodes of R,G and B from an external power source.
4. While watching the picture, adjust the G2 volume (RV701) immediately before fly-back lines disappear.

[White balance adjustment]

1. Input an all-white signal from the pattern generator.
2. Set the picture BRIGHTNESS and COLOR controls to their normal levels.
3. Use RV704 (B DRIVE) and RV703 (G DRIVE) to adjust for best white balance.
4. Repeat steps 2 and 3 to obtain best results.

Preparation: (29 inch)

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-5. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast } normal
   Brightness }
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and green take up equally sized areas on each side.
   (See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that the entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Figure 3-4.)

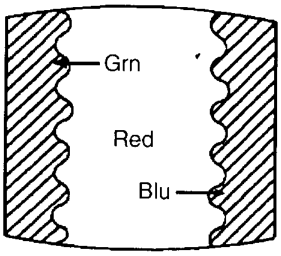


Fig. 3-3

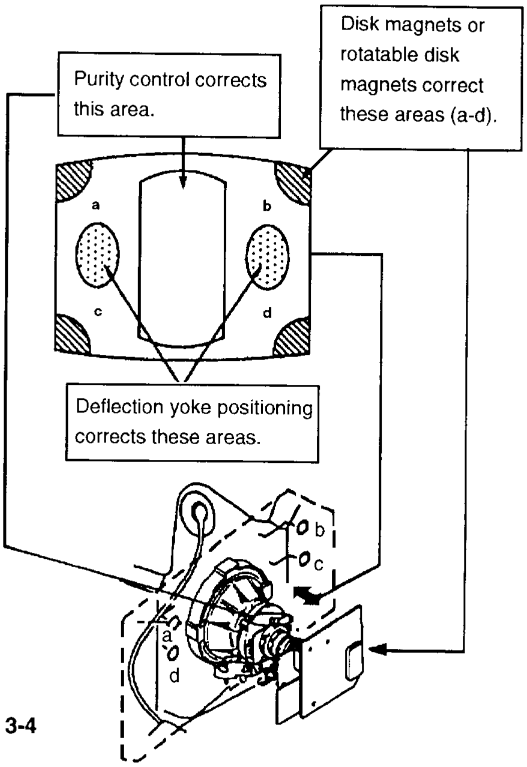

Purity control corrects this area.
Disk magnets or rotatable disk magnets correct these areas (a-d).
a
b
c
d
Deflection yoke positioning corrects these areas.
b
c
a
d

Fig. 3-4

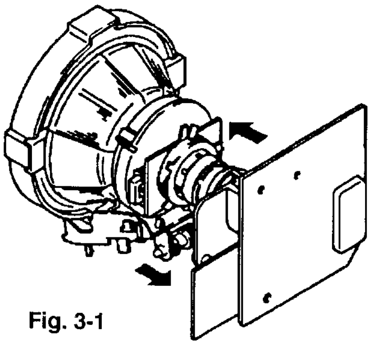


Fig. 3-1

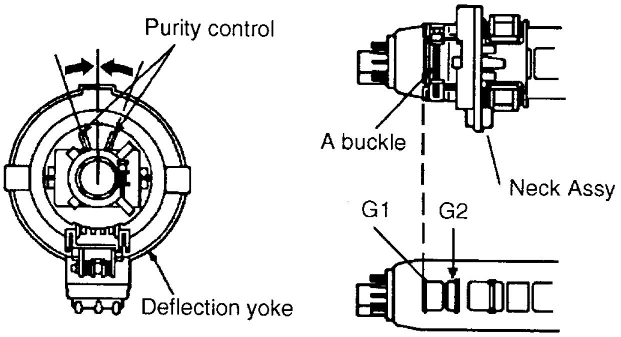

Purity control
Deflection yoke
A buckle
Neck Assy
G1
G2

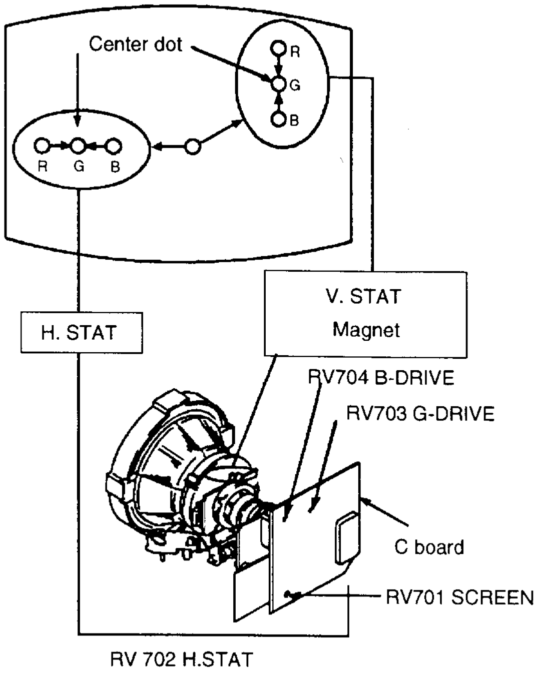
Fig. 3-2

3-6. CONVERGENCE

Preparation:

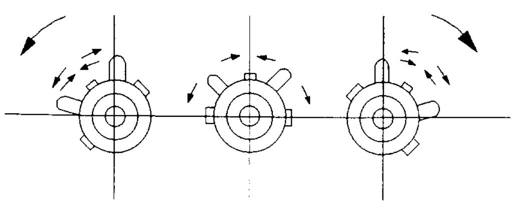
- Before starting, perform FOCUS, H.SIZE, and V.SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence.

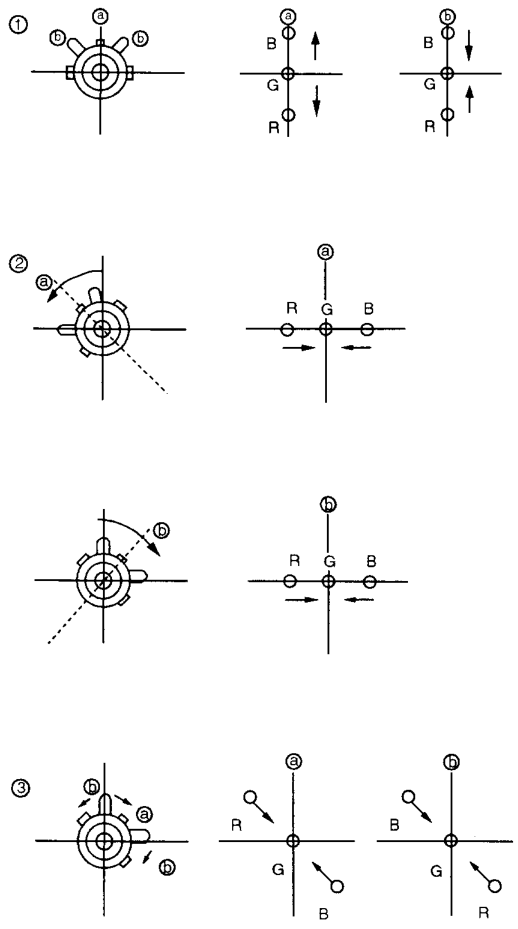

Center dot
R
G
B
R G B
H. STAT
V. STAT
Magnet
RV704 B-DRIVE
RV703 G-DRIVE
C board
RV701 SCREEN
RV 702 H.STAT

1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other.)

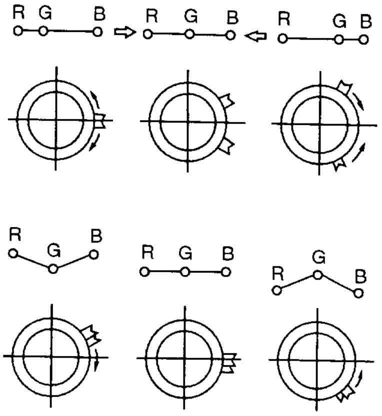
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

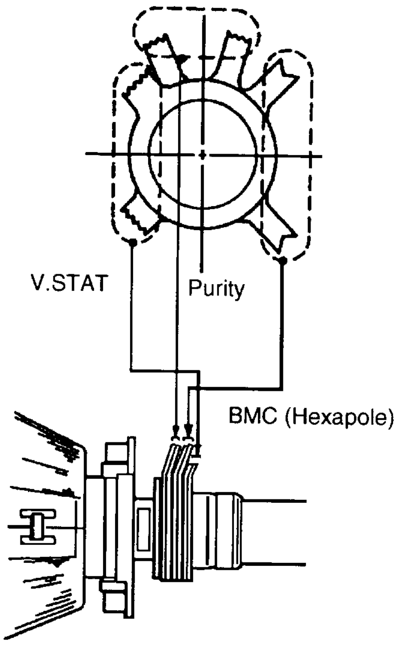


4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.


①
ⓐ
ⓑ
ⓑ
B
G
R
②
ⓐ
R G B
ⓑ
R G B
③
ⓑ
ⓐ
ⓑ
R
G
B
B
G
R

- Operation of BMC (Hexapole) Magnet


R G B
R G B
R G B
R G B
R G B
R G B


V.STAT
Purity
BMC (Hexapole)

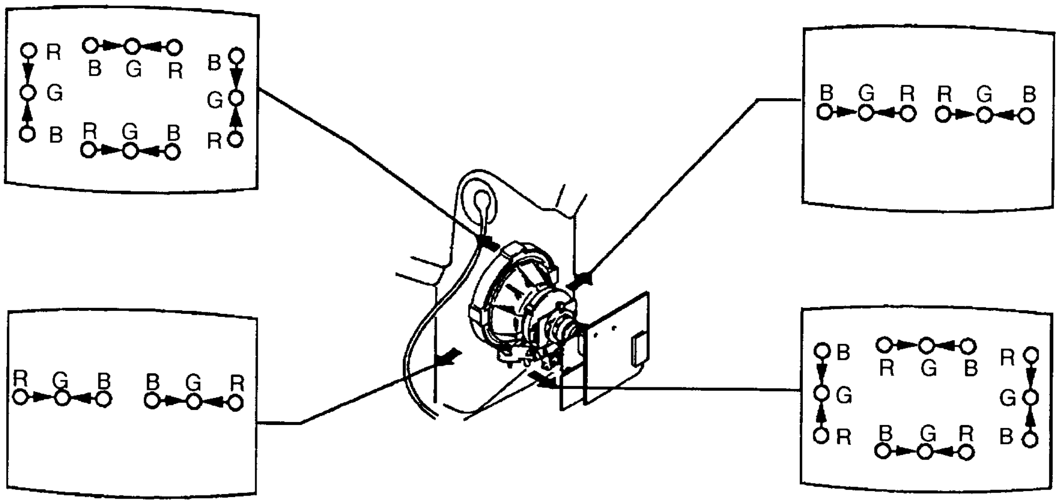
The respective dot positions resulting from moving each magnet

- interact, so be sure to perform adjustments while tracking.
Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of the screen (by moving the dots in the horizontal direction).

(2) Dynamic convergence adjustment preparation :

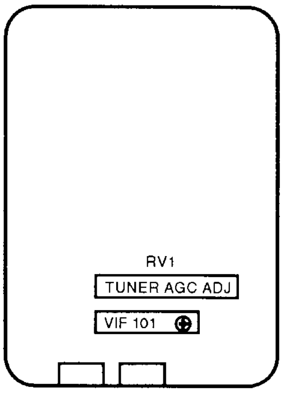
Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.


R
G
B
B G R
R G B
B
G
R
B G R R G B
R G B B G R
B
G
R
R G B
B G R
R
G
B

SECTION 4
CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENT

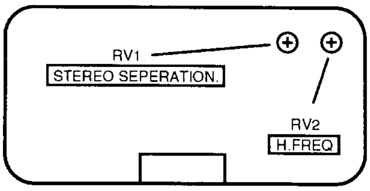


A BOARD (COMPONENT SIDE)

TUNER AGC ADJUSTMENT (VIF101, RV1)

1. Align with an appropriate signal between stations.
2. Adjust AGC VR so that the snow and crossmodulation just disappear from the picture.

IFG5.5S SIF



IFG5.5S SIF -component side-

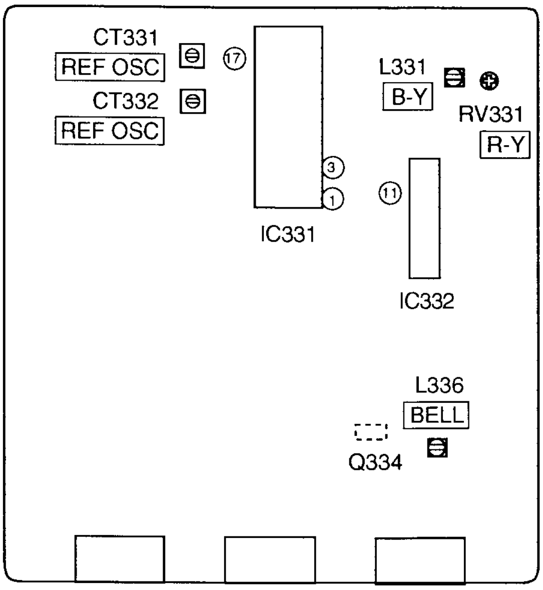
STEREO SEPARATION ADJUSTMENT (RV1)

1. Input stereo signals. (L-CH 400Hz,R-CH 1KHz)
2. Check the stereo indicator.
3. Connect an oscilloscope to pin ⑧ (CH1) of CN1 through band pass filter of 1KHz.
4. Adjust RV1 so that 1KHz voltage goes down to the minimum.

H FREQ (RV2)

1. Input a PAL COLOR BAR signal, then connect a jumper wire between pin ⑫ IC4 and GND.
2. Connect a frequency counter to pin ④ IFG5.5S (HP) of CN1 through a probe of 10:1.
3. Adjust RV2 (H.FREQ) 15.625±50Hz.
4. After adjustment, remove the jumper wire.

4-2. B BOARD ADJUSTMENTS



REFERENCE OSCILLATOR ADJUSTMENT (CT332 8.8MHz)

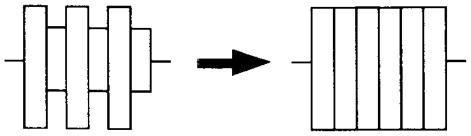
1. Input a PAL color bar signal.
2. Ground pin ⑰ of the IC331.
3. Adjust CT332 to obtain synchronization.

REFERENCE OSCILLATOR ADJUSTMENT (CT331 7.16MHz)

1. Input a NTSC color bar signal.
2. Ground pin ⑰ of the IC331.
3. Adjust CT331 to obtain synchronization.
4. Remove the jumper grounding pin ⑰ of IC331.

BELL FILTER ADJUSTMENT (L336)

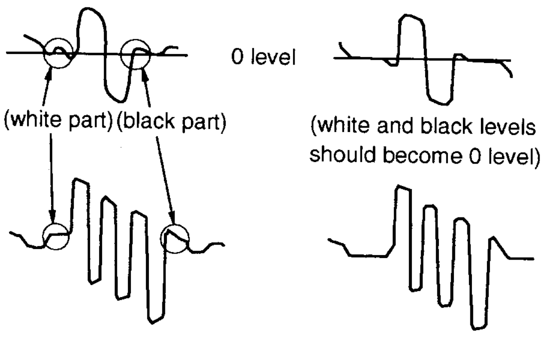
1. Input a SECAM color bar signal.
2. Connect the oscilloscope to the emitter of Q334.
3. Adjust L336 so that the waveform is flat.



<Before Adjustment> <After Adjustment>

DISCRIMINATOR ADJUSTMENTS (RV331 and L331)

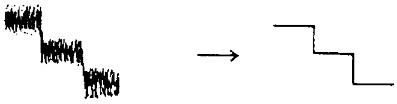
1. Input a Secam color bar signal.
2. Connect the oscilloscope to pin ① of IC331.
3. Adjust RV331 until the white and black sections of the waveform at pin ① are at the 0 level.
   Connect the oscilloscope to pin ③ of IC331
4. Adjust L331 until the white and black sections of the waveform at pin ③ are at the 0 level.



(Before Adjustment) (After Adjustment)

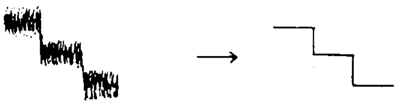
SECAM TRAP (L312)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to Q340 emitter and adjust L312 to minimize color carrier on the Y-signal.

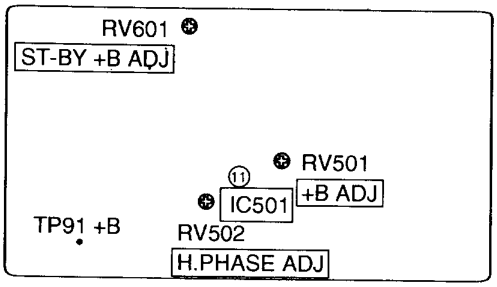


NTSC TRAP (L308)

1. Input a NTSC (3.58) color bar signal.
2. Connect the oscilloscope to Q340 emitter and adjust L308 to minimize color carrier on the Y-signal.



4-3. D BOARD ADJUSTMENTS



D BOARD (COMPONENT SIDE)

+B ADJUSTMENT (RV501)

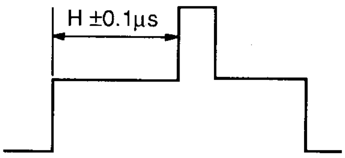
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain 135 ± 0.2V.

ST-BY +B ADJUSTMENT (RV601)

1. Put the system into ⏻ standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain 135 ± 3V.
4. Take the system out of ⏻ standby mode (remote commander).

H.PHASE ADJUSTMENT (RV502)

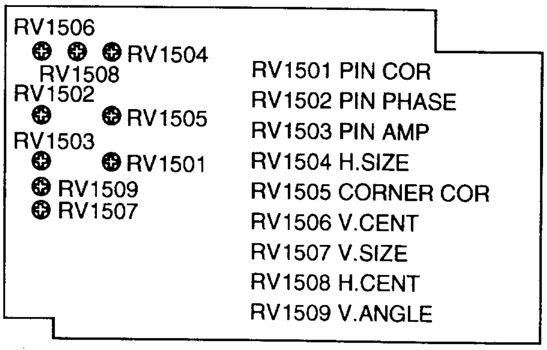
1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC501.
5. Rotate RV502 to adjust to H



Standard of H.PHASE

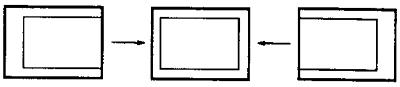
Model Size	H
21"	5.6μs
25"	5.1μs
29"	5.5μs

4-4. J1 BOARD ADJUSTMENTS

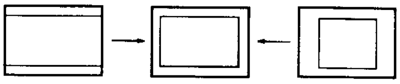

RV1506
RV1504
RV1508
RV1502
RV1505
RV1503
RV1501
RV1509
RV1507
RV1501 PIN COR
RV1502 PIN PHASE
RV1503 PIN AMP
RV1504 H.SIZE
RV1505 CORNER COR
RV1506 V.CENT
RV1507 V.SIZE
RV1508 H.CENT
RV1509 V.ANGLE

J1 BOARD (COMPONENT SIDE)

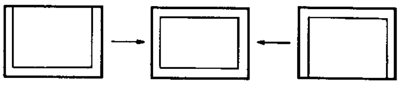
RV1508
H.CENT (HORIZONTAL CENTER)



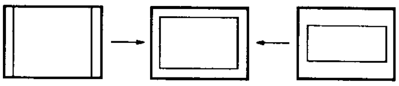
RV1504
H.SIZE (HORIZONTAL SIZE)



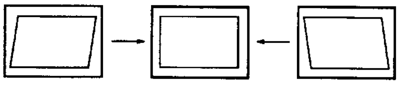
RV1506
V.CENT (VERTICAL CENTER)



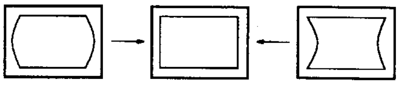
RV1507
V.SIZE (VERTICAL SIZE)



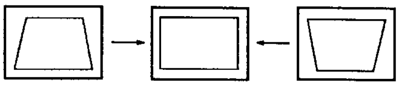
RV1509
V.ANGLE (VERTICAL ANGLE)



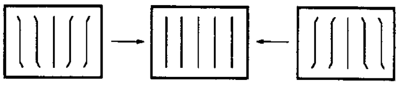
RV1503
PIN AMP (PINCUSHION AMPLIFIER)



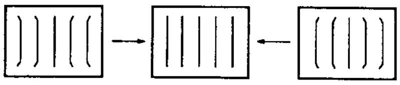
RV1502
PIN PHASE (PINCUSHION PHASE)



RV1501
PIN. COR (PINCUSHION CORRECT)



RV1505
CORNER COR (CORNER CORRECT)



4-5. SECONDARY ADJUSTMENTS

SUB BRIGHTNESS ADJUSTMENT

1. Set the system to receive a test pattern.
2. Press →•← on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and – simultaneously, turn on the power. (SUB mode is obtained)
5. Minimize the ◑ contrast setting.
6. Adjust the ☼ brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the ◇ (store) button of the remote commander. (SUB mode is released)

If there is no test color pattern

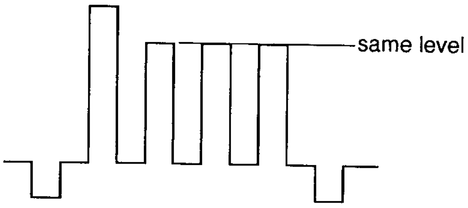
1. Set the system to receive a color pattern.
2. Press →•← on the remote commander to put the system into normal mode.
   Set the ⊕ color to its normal state.

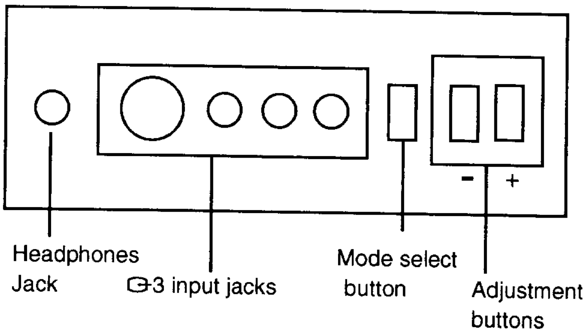
3–5. Steps are the same as above.

6. Since 20 IRE is nearly blue, adjust the ☼ brightness control so that the blue barely glows.
7. Same as step 7 above.
8. Press →• ← on the remote commander to put the system into normal mode.

SUB COLOR ADJUSTMENT

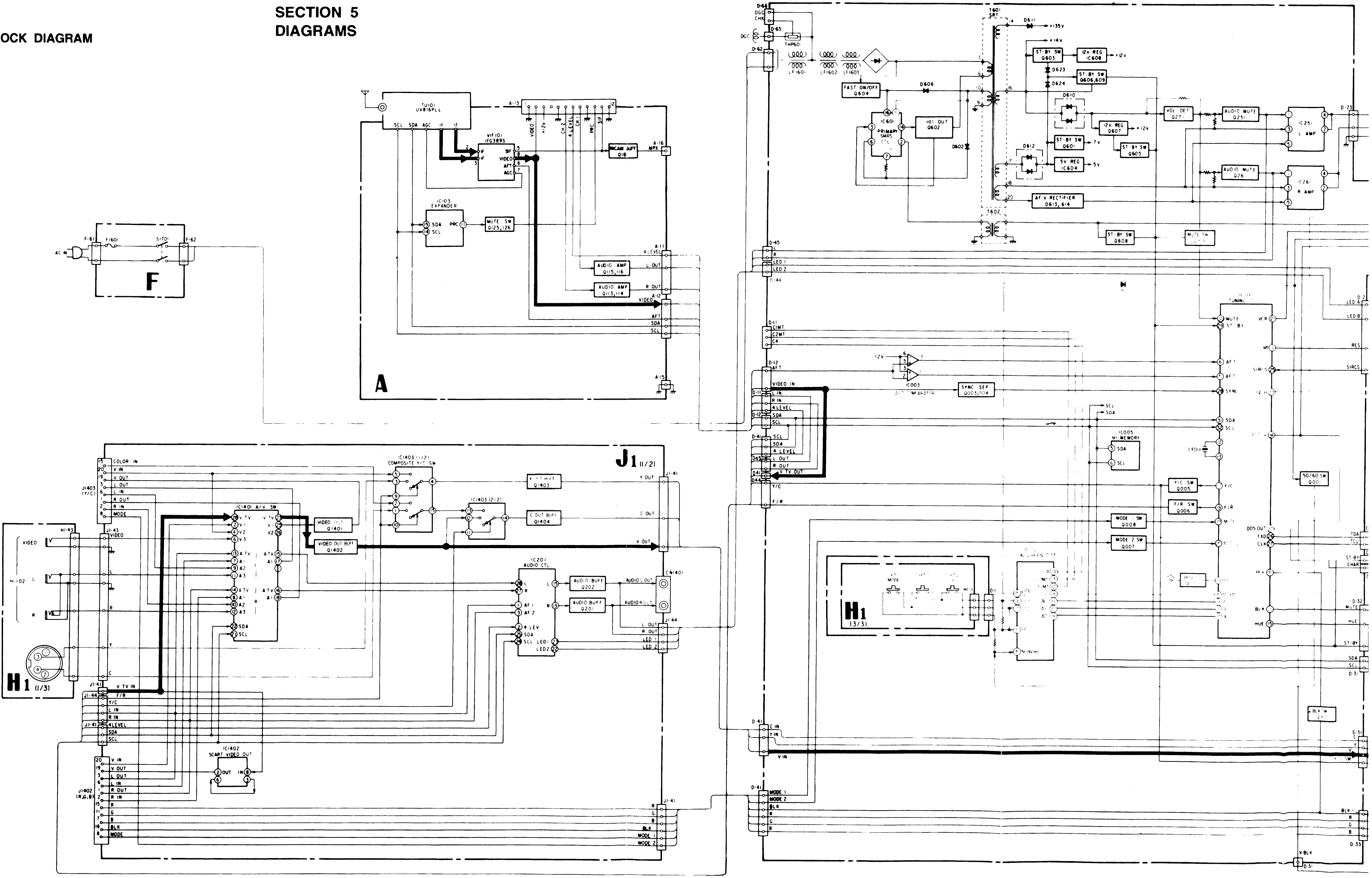
1. Set the system to receive color bars.
2. Press →•← on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and – simultaneously, turn on the power. (SUB mode is obtained).
5. Adjust the color control so that the B out waveform (pin ⑤ of C board connector CNC72) is as shown in the figure below.
6. Depress the ◇ (store) button of the remote commander. (SUB mode is released)

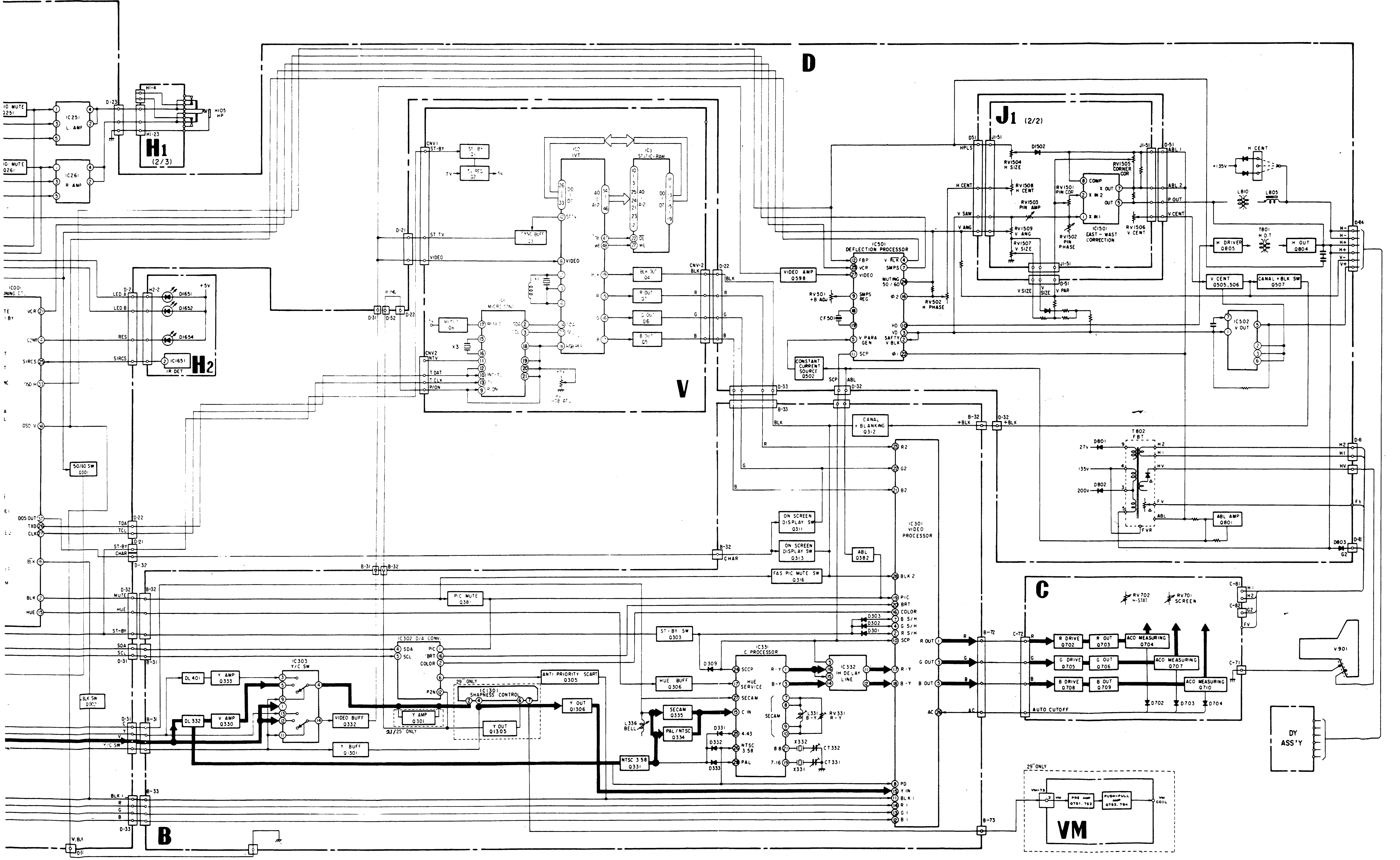



-
+
Headphones Jack
⊖3 input jacks
Mode select button
Adjustment buttons

SECTION 5
DIAGRAMS

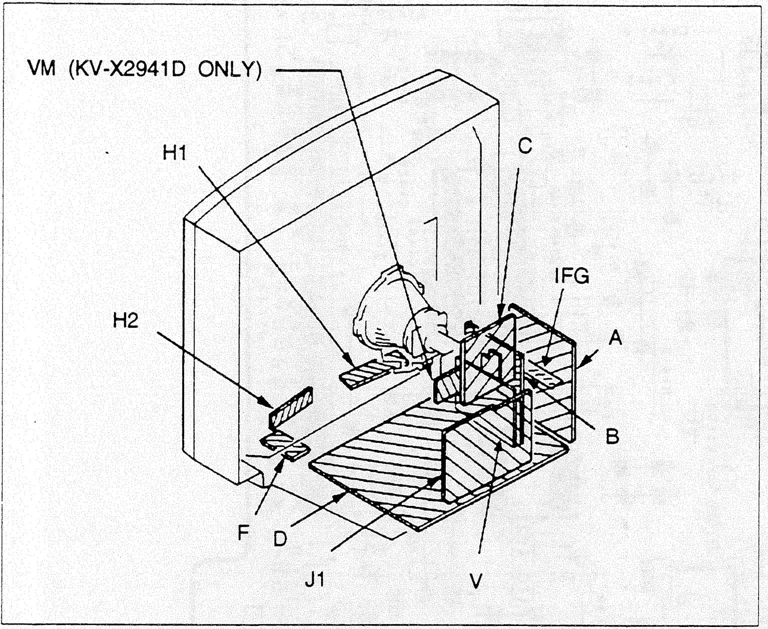
5-1. BLOCK DIAGRAM


F
F-61
F1601
S1701
F-62
AC IN
A
TU101
UV816PLL
SCL
SDA
AGC
IF
VIF101
IFG389S
SIF
VIDEO
AFT
AGC
NICAM BUFF
Q181
MPX
A-13
A-16
IC103
EXPANDER
SDA
SCL
PRC
MUTE SW
Q125,126
4 LEVEL
AUDIO AMP
Q115,116
AUDIO AMP
Q113,114
L OUT
R OUT
A-11
A-12
AFT
SDA
SCL
A-15
J1 (1/2)
J1403
(Y/C)
COLOR IN
V IN
V OUT
L OUT
L IN
R OUT
R IN
MODE
IC1403 (1/2)
COMPOSITE Y/C SW
IC1403 (2/2)
Y OUT BUFF
Q1403
C OUT BUFF
Q1404
Y OUT
C OUT
V OUT
IC1401 A/V SW
V TV
V1
V2
V3
A TV
A1
A2
A3
SDA
SCL
VIDEO OUT
Q1401
VIDEO OUT BUFF
Q1402
IC201
AUDIO CTL
AF 1
AF 2
4 LEV
LED1
LED2
AUDIO BUFF
Q202
AUDIO BUFF
Q201
AUDIO L OUT
AUDIO R OUT
CN1401
J1-41
J1-44
LED 1
LED 2
H1-43
J1-43
VIDEO
H1-02
L
R
Y
C
H1 (1/3)
V TV IN
F/R
Y/C
L IN
R IN
4LEVEL
SDA
SCL
IC1402
SCART VIDEO OUT
OUT
IN
J1402
(R,G,B)
V IN
V OUT
L OUT
L IN
R OUT
R IN
R
G
B
BLK
MODE
MODE 1
MODE 2
D-66
DGC
CHK
D-65
D-62
THP601
LF1601
LF1602
LF1603
T601
SRT
D611
+135V
+14V
ST-BY SW
Q603
12V REG
IC608
+12V
D623
ST BY SW
Q606,609
D624
FAST ON/OFF
Q604
D606
IC601
PRIMARY
SMRS
CTL
HEG OUT
Q602
D602
D610
12V REG
Q607
ST-BY SW
Q601
7V
ST-BY SW
Q605
D612
5V REG
IC604
5V
AF V RECTIFIER
D613, 614
T602
ST-BY SW
Q608
MUTE SW
VOL DET
Q271
AUDIO MUTE
Q251
IC251
L AMP
AUDIO MUTE
Q261
IC261
R AMP
D-23
D-45
LED 1
LED 2
D-44
D-41
C1MT
C2MT
C4
D-12
AFT
VIDEO IN
L IN
R IN
4 LEVEL
SDA
SCL
D-11
SCL
SDA
4 LEVEL
L OUT
R OUT
V TV OUT
Y/C
F/R
IC003
SYNC SEP
Q003,004
SCL
SDA
IC005
M MEMORY
SDA
SCL
TUNING
MUTE
ST BY
AFT
SYNC
SDA
SCL
Y/C SW
Q005
F/R SW
Q006
MODE 1 SW
Q008
MODE 2 SW
Q007
50/60 SW
Q001
LED A
LED B
RES
SIRCS
TDA
TCS
ST-BY
CHAR
D-32
MUTE
HUE
BLK
ST-BY
SDA
SCL
D-31
D-2
H1 (3/3)
MODE
D-41
C IN
Y IN
V IN
MODE 1
MODE 2
BLK
R
G
B
BLK
D-33
V BLK
D-31



D
H1 (2/3)
H105 HP
IC251 L AMP
IC261 R AMP
V
IC1 MICRO CONT
IC2 IVT
IC3 STATIC-RAM
ST-BY Q1
5V REG Q2
SYNC BUFF Q3
RESET Q4
BLK OUT Q4
R OUT Q7
G OUT Q6
B OUT Q5
H2
D1651
D1652
D1654
IC1651 IR DET
J1 (2/2)
RV1504 H SIZE
RV1508 H CENT
RV1503 PIN AMP
RV1509 V ANG
RV1507 V SIZE
RV1501 PIN COR
RV1502 PIN PHASE
RV1505 CORNER COR
IC1501 EAST-WAST CORRECTION
RV1506 V CENT
IC501 DEFLECTION PROCESSOR
VIDEO AMP Q598
RV501 +B ADJ
CF501
RV502 H PHASE
CONSTANT CURRENT SOURCE Q502
H CENT
L810
L805
H DRIVER Q805
T801 H.D.T
H OUT Q804
V CENT Q505,506
CANAL+BLK SW Q507
IC502 V OUT
CANAL + BLANKING Q312
T802 FBT
D801
D802
ABL AMP Q801
D803
ON SCREEN DISPLAY SW Q311
ON SCREEN DISPLAY SW Q313
ABL Q382
FAS PIC MUTE SW Q316
PIC MUTE Q381
IC301 VIDEO PROCESSOR
ST-BY SW Q303
IC302 D/A CONV.
IC303 Y/C SW
DL401
Y AMP Q333
DL332
V AMP Q330
VIDEO BUFF Q332
Y BUFF Q301
Y AMP Q301
21/25 ONLY
29" ONLY
IC1301 SHARPNESS CONTROL
Y OUT Q1305
Y OUT Q1306
ANTI PRIORITY SCART Q305
HUE BUFF Q306
IC331 C PROCESSOR
IC332 1H DELAY LINE
SECAM Q335
PAL/NTSC Q334
NTSC 3.58 Q331
L336 BELL
L331 B-Y
RV331 R-Y
X332
X331
CT332
CT331
50/60 SW Q001
BLK SW Q002
B
C
RV702 H-STAT
RV701 SCREEN
R DRIVE Q702
R OUT Q703
ACO MEASURING Q704
G DRIVE Q705
G OUT Q706
ACO MEASURING Q707
B DRIVE Q708
B OUT Q709
ACO MEASURING Q710
D702
D703
D704
AUTO CUTOFF
V901
DY ASS'Y
29" ONLY
VM
PRE AMP Q751,752
PUSH-PULL AMP Q753,754
VM COIL

5-2. CIRCUIT BOARD LOCATION


VM (KV-X2941D ONLY)
H1
C
IFG
H2
A
B
F
D
J1
V

5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS - Conductor Side -

Note :

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms. kΩ = 1000Ω , MΩ = 1000KΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm
Rating electrical power ¼ W

- -⊡- : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth - ground.
- ⏚ : earth - chassis.
- # : no mounted.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with part number specified.

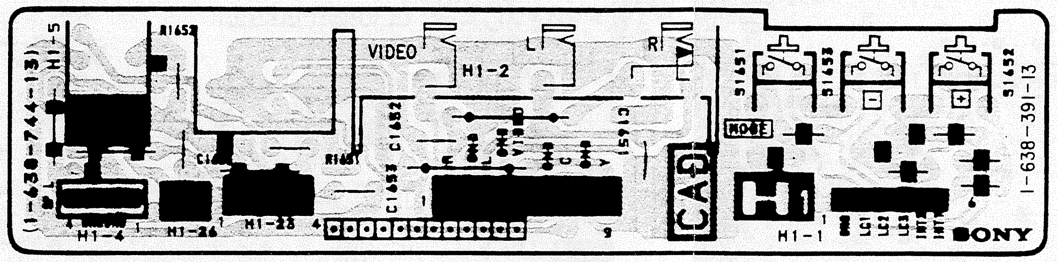
Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTABLE RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

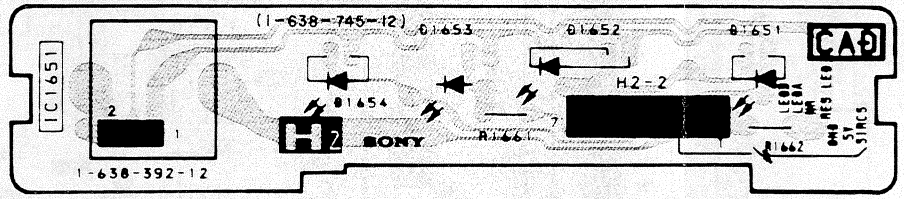
- Readings are taken with a colour-bar signal input.
- Readings are taken with 10MΩ digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- ▬ : B+ bus.
- ▒ : signal path. (RF)

H1 [CONTROL SW, AV INPUT, HEADPHONE] **H2** [SIRCS RECEIVER, INDICATOR] **F** [AC IN POWER SW]

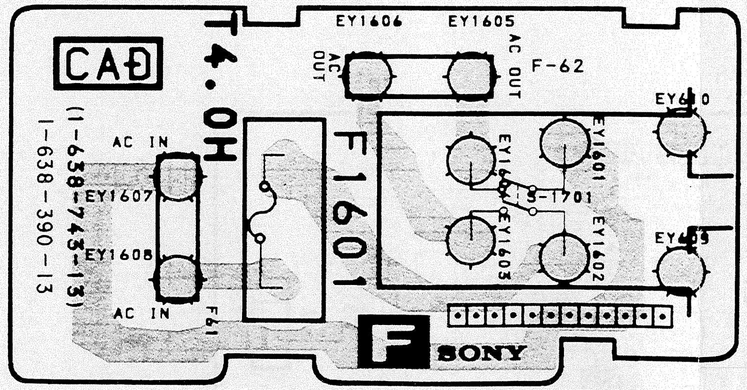
— H1 Board —


(1-638-744-13)
H1-5
R1652
VIDEO
H1-2
L
R
S1651
S1653
S1652
1-638-391-13
C1652
C1653
C1651
R1651
MODE
CAD
H1
H1-4
H1-26
H1-23
H1-1
1
4
9
SONY

— H2 Board —


(1-638-745-12)
D1653
D1652
D1651
CAD
IC1651
D1654
H2-2
R1661
R1662
H2
SONY
1-638-392-12
2
1
7

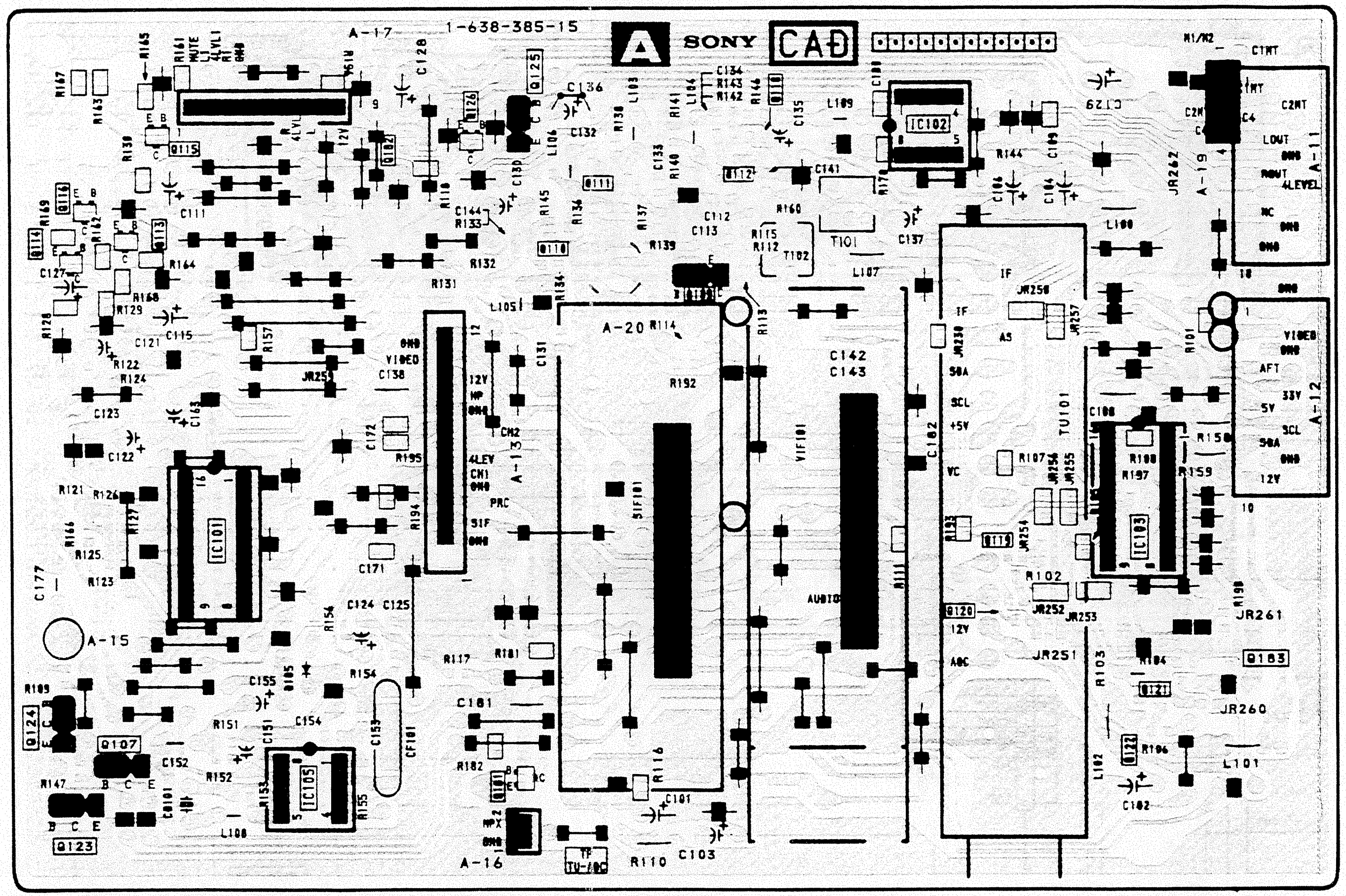
— F Board —


CAD
T4.0H
F1601
EY1606
EY1605
AC OUT
AC OUT
F-62
EY1610
EY1609
AC IN
AC IN
EY1607
EY1608
(1-638-743-13)
1-638-390-13
EY1601
EY1602
EY1603
EY1604
S1701
F61
F
SONY

A [TUNER, SIF, VIF] VM [VM AMP]

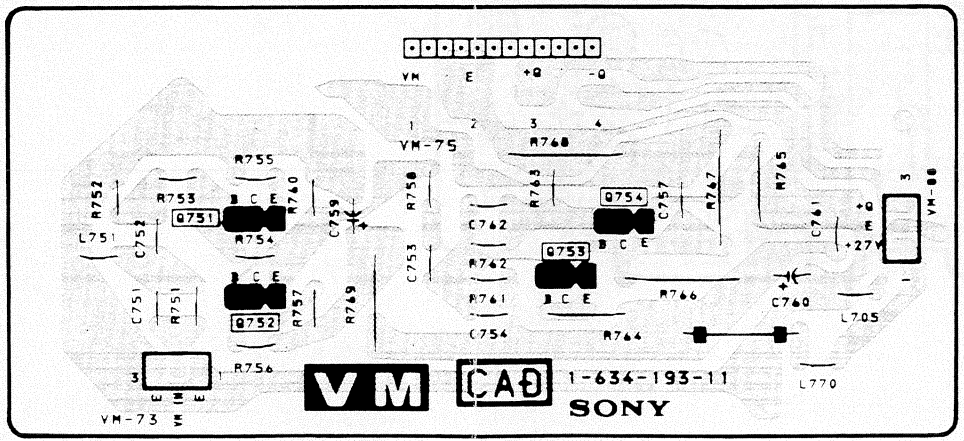
J1 [AUDIO CONTROL, AV INPUT Y/C INPUT, SCART VIDEO OUT EAST-WEST CORRECTION]

– A Board –



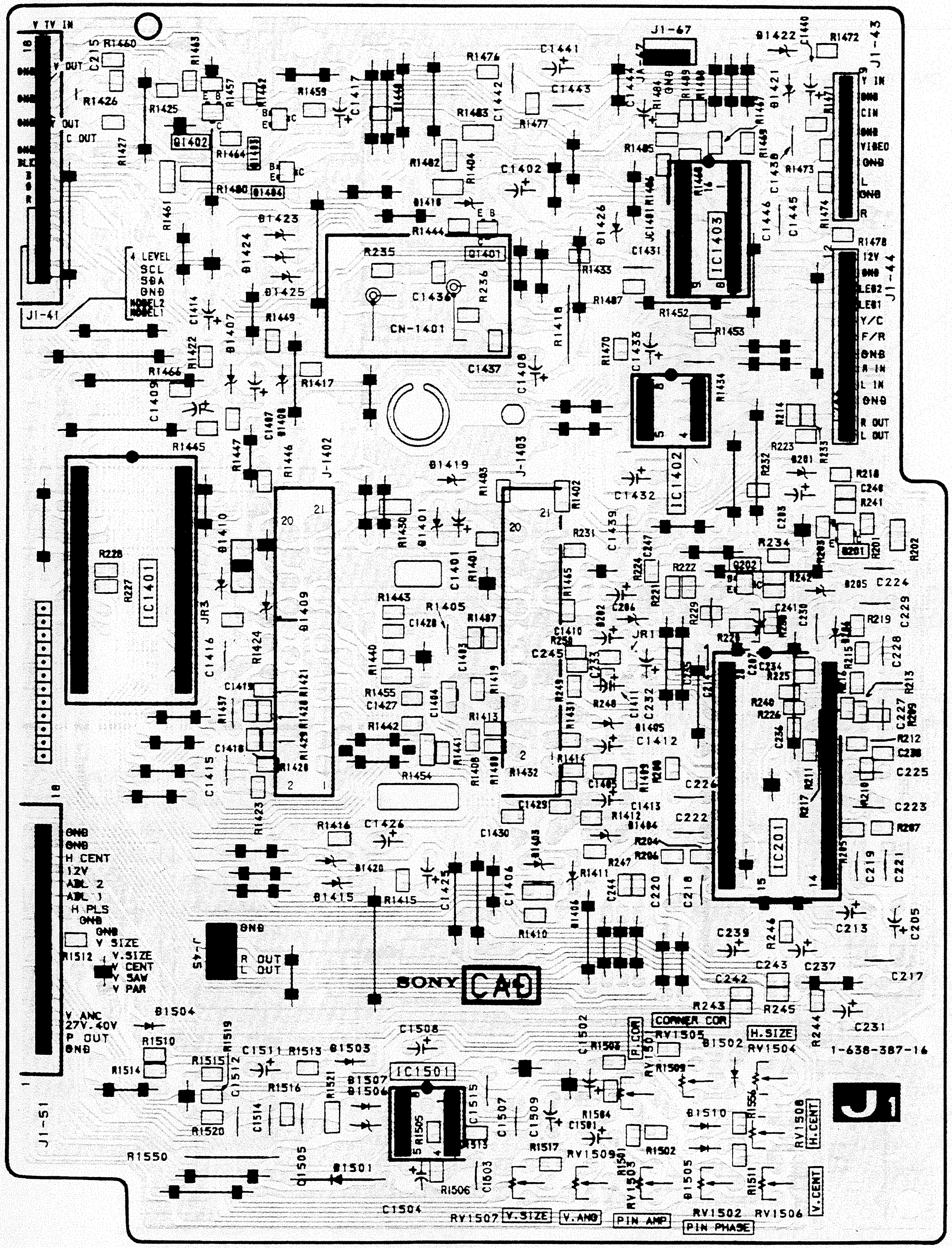
A-17
1-638-385-15
A
SONY
CAD
IC101
IC102
IC103
IC105
SIF101
VIF101
TU101
A-11
A-12
A-13
A-15
A-16
A-19
A-20

– VM Board – (29 inch only)

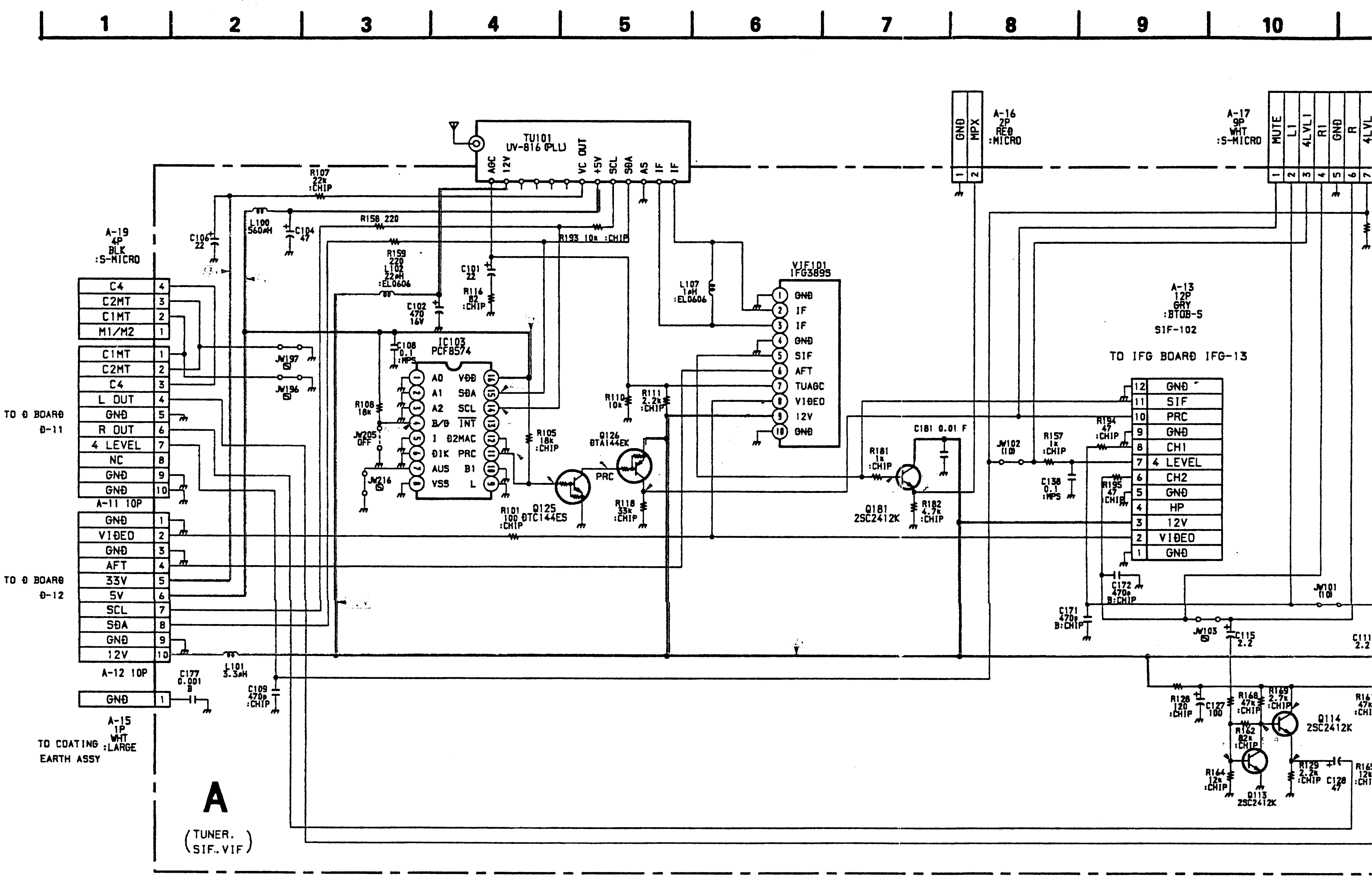


VM
E
+Q
-Q
VM-75
VM-88
VM-73
Q751
Q752
Q753
Q754
VM
CAD
1-634-193-11
SONY

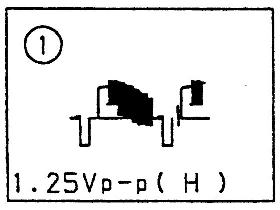
– J1 Board –



J1-41
J1-43
J1-44
J1-51
J1-67
IC1401
IC1402
IC1403
IC1501
IC201
CN-1401
SONY
CAD
1-638-387-16
J1
V.SIZE
V.ANG
PIN AMP
PIN PHASE
V.CENT
H.CENT
H.SIZE
CORNER COR

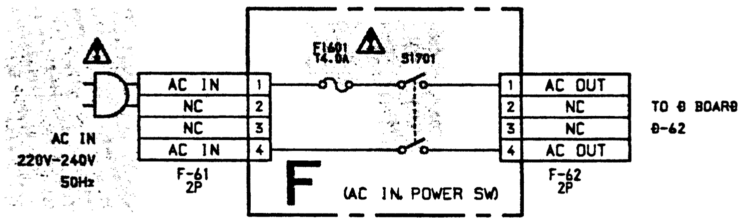

1
2
3
4
5
6
7
8
9
10
TU101
UV-816 (PLL)
AGC
12V
VC OUT
+5V
SCL
SDA
AS
IF
IF
R107 22k :CHIP
R158 220
R193 10k :CHIP
L100 560μH
C104 47
C106 22
A-19 4P BLK :S-MICRO
C4
C2MT
C1MT
M1/M2
C1MT
C2MT
C4
L OUT
GND
R OUT
4 LEVEL
NC
GND
GND
A-11 10P
TO B BOARD B-11
GND
VIDEO
GND
AFT
33V
5V
SCL
SDA
GND
12V
A-12 10P
TO B BOARD B-12
GND
A-15 1P WHT :LARGE
TO COATING EARTH ASSY
C177 0.001 B
L101 3.3μH
C109 470p :CHIP
R159 220
L102 22μH :EL0606
C101 22
R116 82 :CHIP
C102 470 16V
IC103 PCF8574
C108 0.1 :MPS
A0 VDD
A1 SDA
A2 SCL
B/D INT
I D2MAC
DIK PRC
AUS B1
VSS L
JW197
JW196
R108 18k
JW205 OFF
JW216
R105 18k :CHIP
R101 100
Q125 DTC144ES
:CHIP
Q126 DTA144EK
PRC
R110 10k
R111 2.2k :CHIP
R118 33k :CHIP
L107 1μH :EL0606
VIF101 IFG3895
GND
IF
IF
GND
SIF
AFT
TUAGC
VIDEO
12V
GND
R181 1k :CHIP
C181 0.01 F
Q181 2SC2412K
R182 4.7k :CHIP
A-16 2P RED :MICRO
GND
MPX
A-17 9P WHT :S-MICRO
MUTE
L1
4LVL1
R1
GND
R
4LVL
A-13 12P GRY :BTOB-S
SIF-102
TO IFG BOARD IFG-13
GND
SIF
PRC
GND
CH1
4 LEVEL
CH2
GND
HP
12V
VIDEO
GND
JW102 (10)
R157 1k :CHIP
R194 47 :CHIP
C138 0.1 :MPS
R195 47 :CHIP
C172 470p B:CHIP
C171 470p B:CHIP
JW101 (10)
JW103 (5)
C115 2.2
R128 120 :CHIP
C127 100
R166 47k :CHIP
R169 2.7k :CHIP
Q114 2SC2412K
R162 82k :CHIP
R164 12k :CHIP
R129 2.2k :CHIP
C128 47
Q113 2SC2412K
A
(TUNER. SIF. VIF)

Waveform A Board

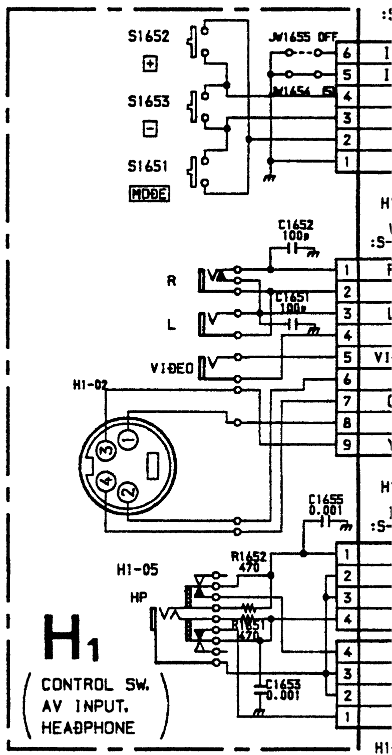


A Board

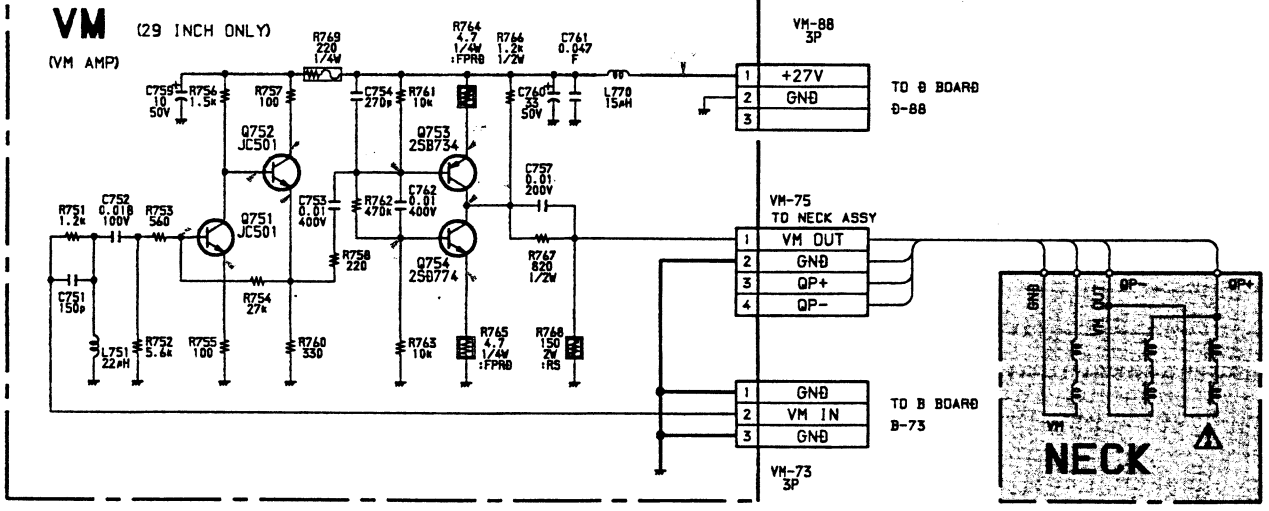
IC103	EXPANDER
Q113	AUDIO AMP
Q114	AUDIO AMP
Q115	AUDIO AMP
Q116	AUDIO AMP
Q125	MUTE SW
Q126	MUTE SW
Q181	BUFFER


⚠
AC IN
220V-240V
50Hz
AC IN
NC
NC
AC IN
F-61 2P
F1601 T4.0A
⚠
S1701
AC OUT
NC
NC
AC OUT
F-62 2P
TO B BOARD B-62
F
(AC IN, POWER SW)

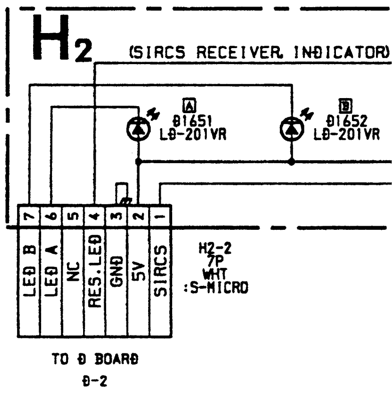
B-SS4165<AEP>-F..


S1652
S1653
S1651
MODE
JW1655 OFF
JW1654
C1652 100p
C1651 100p
R
L
VIDEO
H1-02
C1655 0.001
R1652 470
H1-05
HP
R1651 470
C1653 0.001
H1
CONTROL SW. AV INPUT. HEADPHONE

B-SS4165<AEP>-H1.


VM (29 INCH ONLY)
(VM AMP)
R769 220 1/4W
R764 4.7 1/4W :FPRD
R766 1.2k 1/2W
C761 0.047 F
VM-88 3P
+27V
GND
TO B BOARD B-88
C759 10 50V
R756 1.5k
R757 100
C754 270p
R761 10k
C760 33 50V
L770 15μH
Q752 JC501
Q753 2SB734
R751 1.2k
C752 0.018 100V
R753 560
C753 0.01 400V
R762 470k
C762 0.01 400V
C757 0.01 200V
Q751 JC501
R758 220
Q754 2SB774
R767 820 1/2W
VM-75 TO NECK ASSY
VM OUT
GND
QP+
QP-
C751 150p
L751 22μH
R752 5.6k
R755 100
R754 27k
R760 330
R763 10k
R765 4.7 1/4W :FPRD
R768 150 2W :RS
GND
VM IN
GND
TO B BOARD B-73
VM-73 3P
GND
VM OUT
QP-
QP+
VM
NECK
⚠

B-SS4165<AEP>-VM.

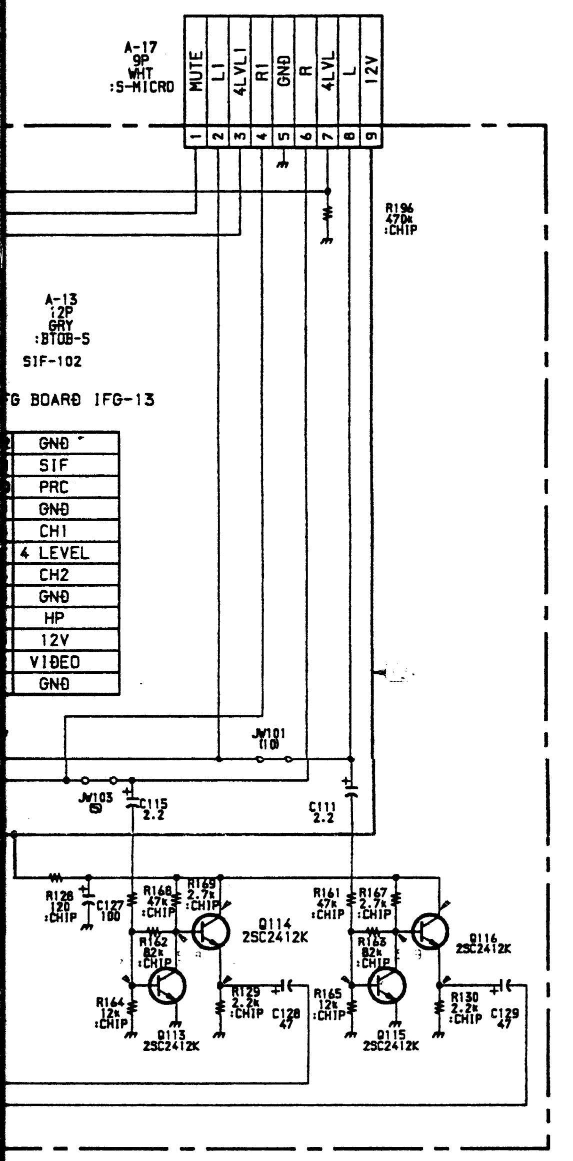

H2 (SIRCS RECEIVER, INDICATOR)
D1651 LB-201VR
D1652 LB-201VR
LED B
LED A
NC
RES.LED
GND
5V
SIRCS
H2-2 7P WHT :S-MICRO
TO B BOARD B-2

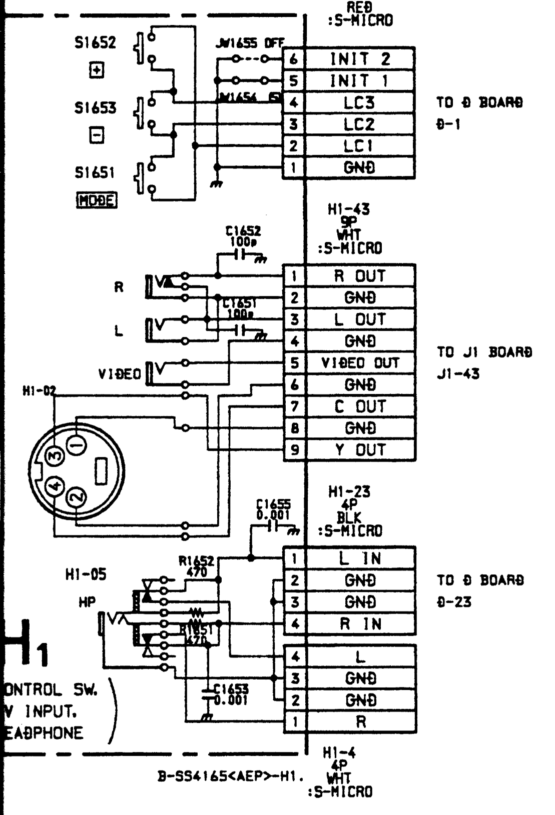
VM Board (29 inch)

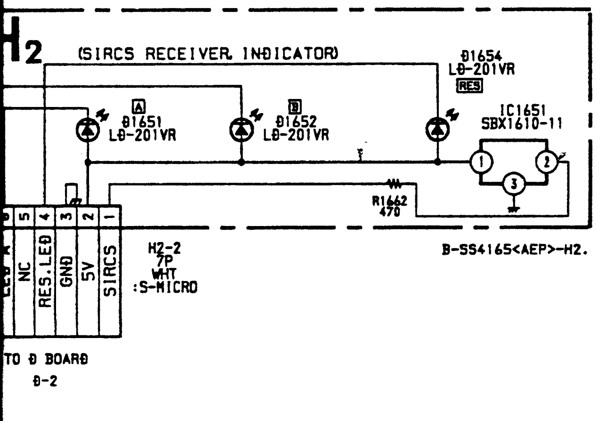
Q751	REF-AMP
Q752	REF-AMP
Q753	PUSH-PULL OUT
Q754	PUSH-PULL OUT

H2 Board

IC1651	INFRARED RECEIV
D1651	AUDIO CHANNEL A
D1652	AUDIO CHANNEL E
D1654	RESET

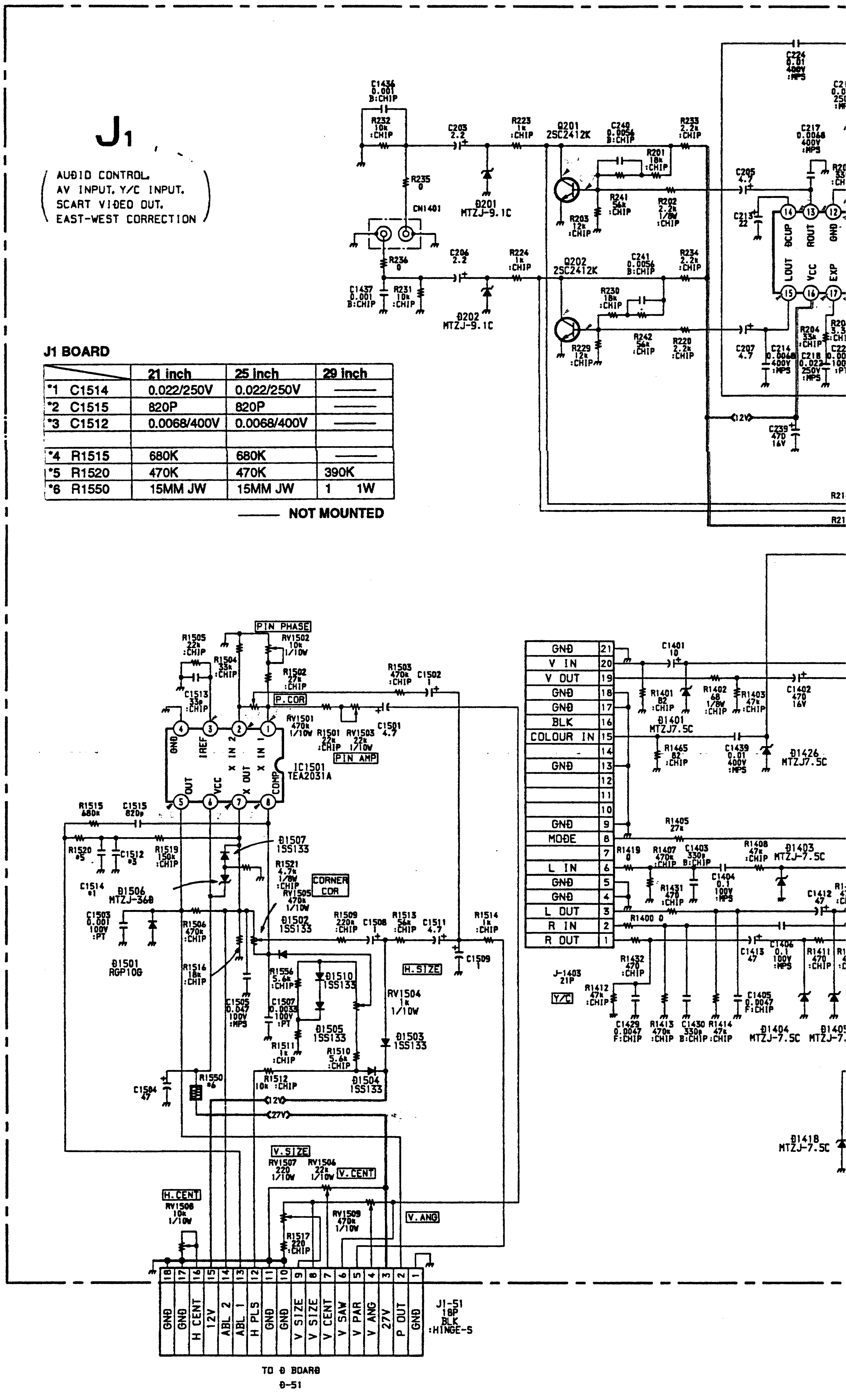

A-17
9P
WHT
:S-MICRO
MUTE
L1
4LVL1
R1
GND
R
4LVL
L
12V
R196
470k
:CHIP
A-13
:2P
GRY
:BTOB-S
SIF-102
IFG BOARD IFG-13
GND
SIF
PRC
GND
CH1
4 LEVEL
CH2
GND
HP
12V
VIDEO
GND
JW101
JW103
C115
2.2
C111
2.2
R128
120
:CHIP
C127
100
R168
47k
:CHIP
R169
2.7k
:CHIP
Q114
2SC2412K
R162
82k
:CHIP
R164
12k
:CHIP
Q113
2SC2412K
R129
2.2k
:CHIP
C128
47
R161
47k
:CHIP
R167
2.7k
:CHIP
R166
82k
:CHIP
Q116
2SC2412K
R165
12k
:CHIP
Q115
2SC2412K
R130
2.2k
:CHIP
C129
47


H1-1
6P
RED
:S-MICRO
S1652
S1653
S1651
MODE
JW1655 OFF
JW1654
INIT 2
INIT 1
LC3
LC2
LC1
GND
TO D BOARD
D-1
H1-43
9P
WHT
:S-MICRO
C1652
100p
C1651
100p
R
L
VIDEO
H1-02
R OUT
GND
L OUT
GND
VIDEO OUT
GND
C OUT
GND
Y OUT
TO J1 BOARD
J1-43
H1-23
4P
BLK
:S-MICRO
C1655
0.001
R1652
470
R1651
470
H1-05
HP
L IN
GND
GND
R IN
TO D BOARD
D-23
C1653
0.001
L
GND
GND
R
H1
CONTROL SW.
AV INPUT.
HEADPHONE
B-SS4165<AEP>-H1.
H1-4
4P
WHT
:S-MICRO


H2
(SIRCS RECEIVER, INDICATOR)
D1654
LD-201VR
RES
IC1651
SBX1610-11
A
D1651
LD-201VR
B
D1652
LD-201VR
R1662
470
B-SS4165<AEP>-H2.
NC
RES.LED
GND
5V
SIRCS
H2-2
7P
WHT
:S-MICRO
TO D BOARD
D-2

H2 Board

IC1651	INFRARED RECEIVER
D1651	AUDIO CHANNEL A INDICATOR
D1652	AUDIO CHANNEL B INDICATOR
D1654	RESET

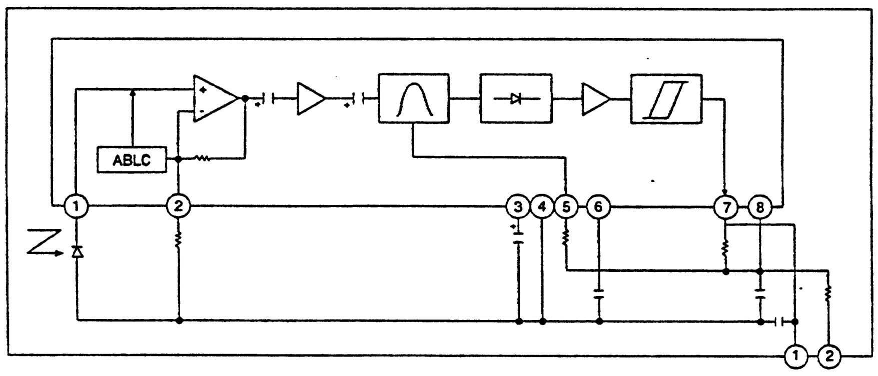

J1
AUDIO CONTROL,
AV INPUT, Y/C INPUT,
SCART VIDEO OUT,
EAST-WEST CORRECTION
C1436
0.001
B:CHIP
R232
10k
:CHIP
C203
2.2
R223
1k
:CHIP
Q201
2SC2412K
C240
0.0056
B:CHIP
R233
2.2k
:CHIP
R201
18k
:CHIP
R235
0
CN1401
D201
MTZJ-9.1C
R203
12k
:CHIP
R241
56k
:CHIP
R202
2.2k
1/8W
:CHIP
R236
0
C1437
0.001
B:CHIP
R231
10k
:CHIP
C206
2.2
R224
1k
:CHIP
Q202
2SC2412K
C241
0.0056
B:CHIP
R234
2.2k
:CHIP
D202
MTZJ-9.1C
R230
18k
:CHIP
R229
12k
:CHIP
R242
56k
:CHIP
R220
2.2k
:CHIP
C224
0.01
400V
:MPS
C217
0.0068
400V
:MPS
C205
4.7
C213
22
BCLP
ROUT
GND
LOUT
VCC
EXP
C207
4.7
C214
0.0068
400V
:MPS
R204
33k
:CHIP
C218
0.022
250V
:MPS
12V
C239
470
16V
PIN PHASE
R1505
22k
:CHIP
RV1502
10k
1/10W
R1504
33k
:CHIP
R1502
27k
:CHIP
C1513
33p
:CHIP
P.COR
R1503
470k
:CHIP
C1502
RV1501
470k
1/10W
R1501
22k
:CHIP
RV1503
22k
1/10W
C1501
4.7
PIN AMP
IC1501
TEA2031A
IREF
X IN 2
X IN 1
OUT
VCC
X OUT
COMP
GND
R1515
680k
*4
C1515
820p
*2
R1520
*5
C1512
*3
R1519
150k
:CHIP
D1507
1SS133
R1521
4.7k
1/8W
:CHIP
RV1505
470k
1/10W
CORNER COR
C1514
*1
D1506
MTZJ-36B
C1503
0.001
100V
:PT
R1506
470k
:CHIP
D1502
1SS133
R1509
220k
:CHIP
RV1508
220k
1/10W
C1508
R1513
56k
:CHIP
C1511
4.7
R1514
1k
:CHIP
H.SIZE
C1509
D1501
RGP10G
R1516
18k
:CHIP
R1556
5.6k
:CHIP
D1510
1SS133
C1505
0.047
100V
:MPS
C1507
0.0033
100V
:PT
RV1504
1k
1/10W
D1505
1SS133
D1503
1SS133
R1511
1k
:CHIP
R1510
5.6k
:CHIP
C1504
47
R1550
*6
R1512
10k
:CHIP
D1504
1SS133
12V
27V
V.SIZE
RV1507
220
1/10W
RV1506
22k
1/10W
V.CENT
H.CENT
RV1508
10k
1/10W
RV1509
470k
1/10W
V.ANG
R1517
220
:CHIP
GND
GND
H CENT
12V
ABL 2
ABL 1
H PLS
GND
GND
V SIZE
V CENT
V SAW
V PAR
V ANG
27V
P OUT
GND
J1-51
18P
BLK
:HINGE-S
TO D BOARD
D-51
GND
V IN
V OUT
GND
GND
BLK
COLOUR IN
GND
GND
MODE
L IN
GND
GND
L OUT
R IN
R OUT
C1401
10
R1401
82
:CHIP
R1402
68
1/8W
:CHIP
R1403
47k
:CHIP
C1402
470
16V
D1401
MTZJ7.5C
R1465
82
:CHIP
C1439
0.01
400V
:MPS
D1426
MTZJ7.5C
R1405
27k
R1419
0
R1407
470k
:CHIP
C1403
330p
B:CHIP
R1408
47k
:CHIP
D1403
MTZJ-7.5C
C1404
0.1
:MPS
R1431
470
:CHIP
C1412
47
R1400 0
J-1403
21P
Y/C
R1432
470
:CHIP
R1412
47k
:CHIP
C1413
47
C1406
0.1
100V
:MPS
R1411
C1405
0.0047
F:CHIP
C1429
0.0047
F:CHIP
R1413
470k
:CHIP
C1430
330p
B:CHIP
R1414
47k
:CHIP
D1404
MTZJ-7.5C
D1418
MTZJ-7.5C

J1 BOARD

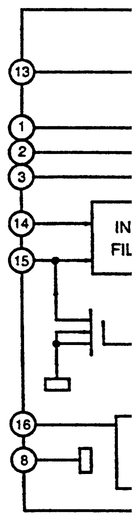
	21 inch	25 inch	29 inch
*1 C1514	0.022/250V	0.022/250V	———
*2 C1515	820P	820P	———
*3 C1512	0.0068/400V	0.0068/400V	———
*4 R1515	680K	680K	———
*5 R1520	470K	470K	390K
*6 R1550	15MM JW	15MM JW	1 1W

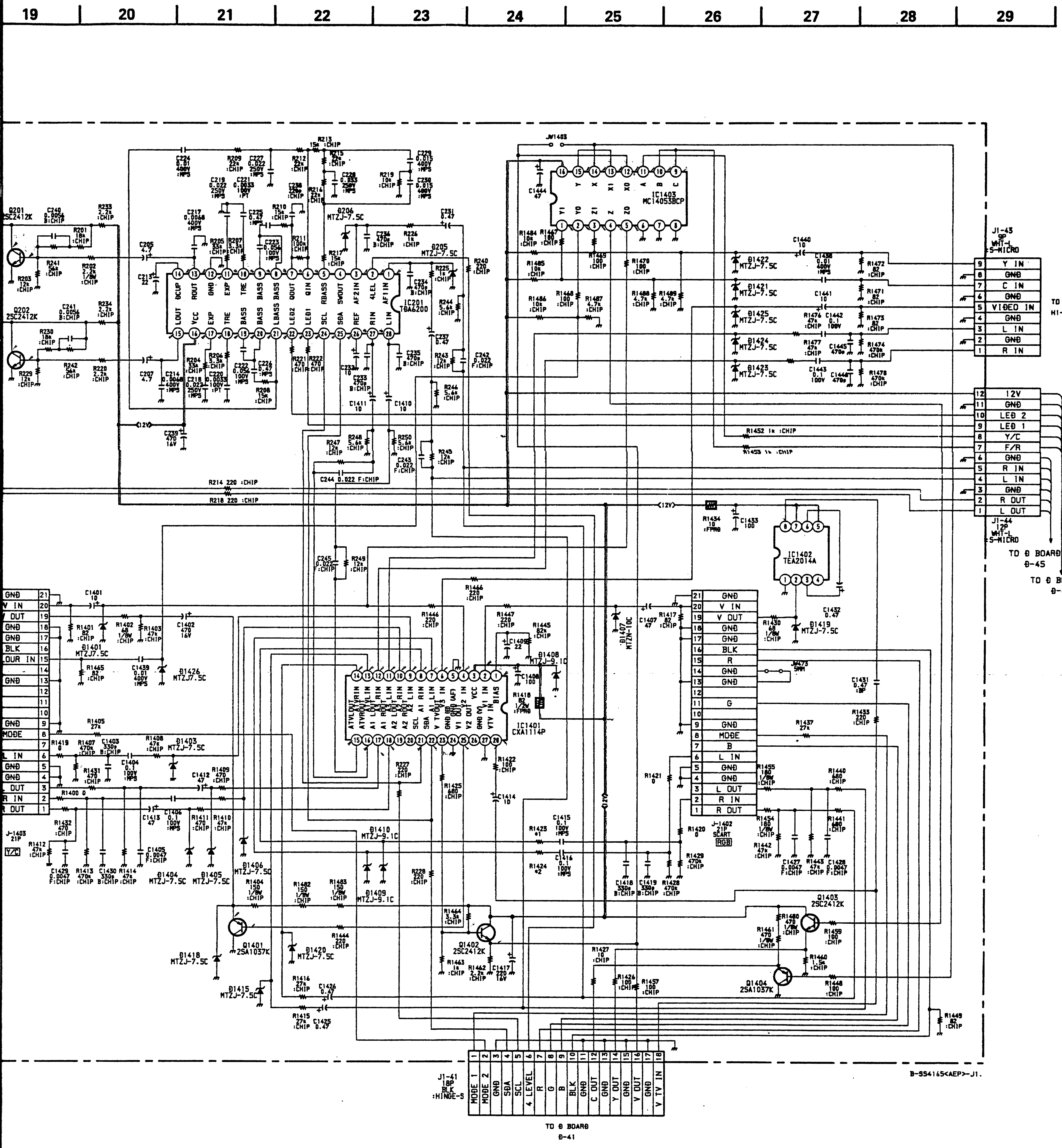
——— NOT MOUNTED

H2 Board IC1651 SBX1610-11

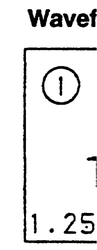

ABLC
1
2
3
4
5
6
7
8
1
2

A Board

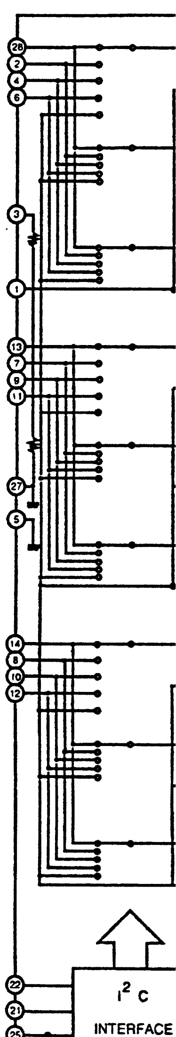

13
1
2
3
14
15
16
8
IN
FIL

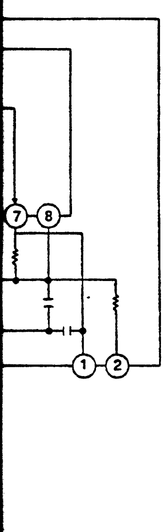

19
20
21
22
23
24
25
26
27
28
29
IC201 TDA6200
IC1403 MC14053BCP
IC1402 TEA2014A
IC1401 CXA1114P
Q201 2SC2412K
Q202 2SC2412K
Q1401 2SA1037K
Q1402 2SC2412K
Q1403 2SC2412K
Q1404 2SA1037K
J1-43 9P WHT-L S-MICRO
Y IN
GND
C IN
GND
VIDEO IN
GND
L IN
GND
R IN
TO H1 BOARD H1-43
J1-44 12P WHT-L S-MICRO
12V
GND
LED 2
LED 1
Y/C
F/R
GND
R IN
L IN
GND
R OUT
L OUT
TO B BOARD B-45
TO B BOARD B-44
J-1402 21P SCART RGB
J-1403 21P
Y/C
J1-41 18P BLK HINGE-S
MODE 1
MODE 2
GND
SDA
SCL
4 LEVEL
R
G
B
BLK
GND
C OUT
GND
Y OUT
GND
V OUT
GND
V TV IN
TO B BOARD B-41
B-554165<AEP>-J1.

Wavef
①
1.25

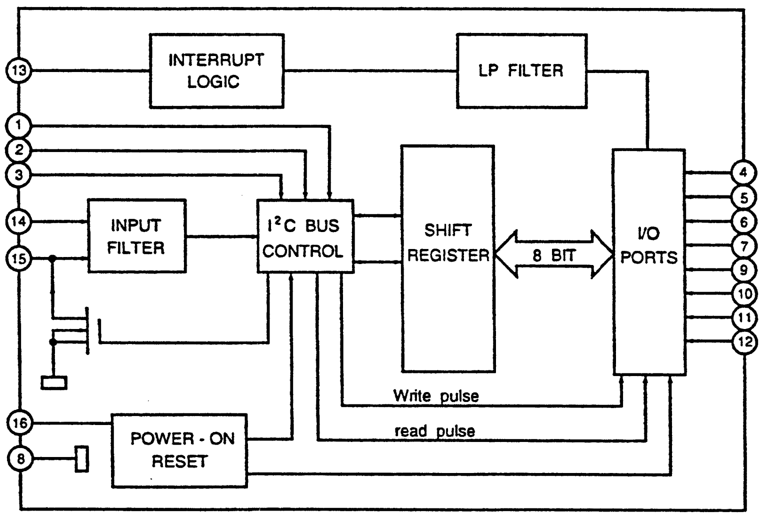


J1 Board IC1

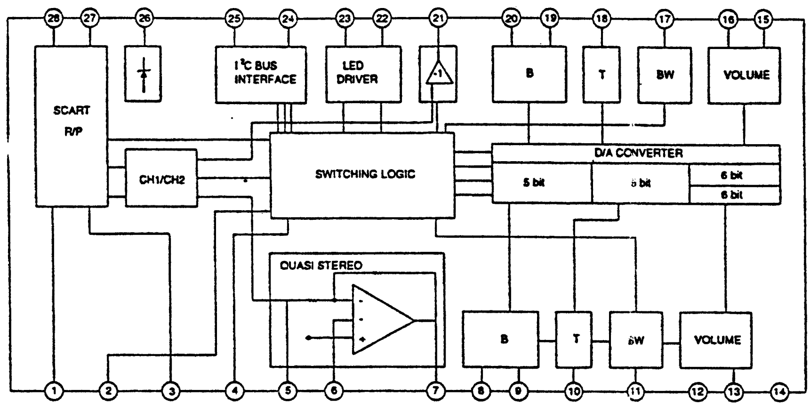

I²C
INTERFACE



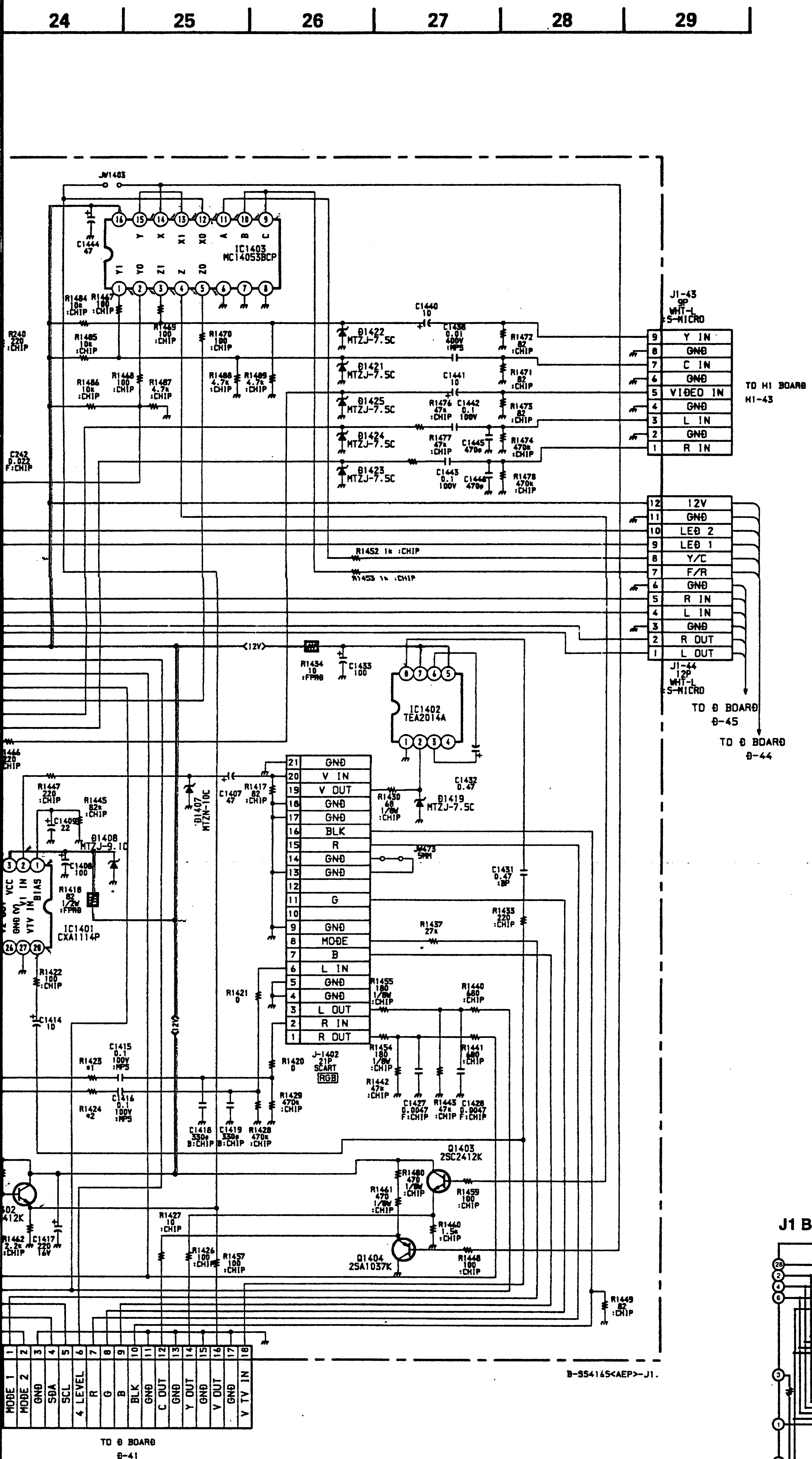
A Board IC103 PCF8574

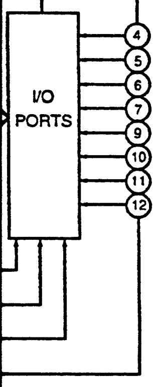

INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I²C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
Write pulse
read pulse
13
1
2
3
14
15
16
8
4
5
6
7
9
10
11
12

J1 Board IC201 TDA6200


SCART R/P
I²C BUS INTERFACE
LED DRIVER
B
T
BW
VOLUME
D/A CONVERTER
CH1/CH2
SWITCHING LOGIC
5 bit
6 bit
6 bit
6 bit
QUASI STEREO
B
T
BW
VOLUME

1.


24
25
26
27
28
29
IC1403 MC14053BCP
J1-43 9P WHT-L S-MICRO
Y IN
GND
C IN
GND
VIDEO IN
GND
L IN
GND
R IN
TO H1 BOARD H1-43
12V
GND
LED 2
LED 1
Y/C
F/R
GND
R IN
L IN
GND
R OUT
L OUT
J1-44 12P WHT-L S-MICRO
TO B BOARD B-45
TO B BOARD B-44
IC1402 TEA2014A
IC1401 CXA1114P
J-1402 21P SCART RGB
GND
V IN
V OUT
GND
GND
BLK
R
GND
GND
G
GND
MODE
B
L IN
GND
GND
L OUT
R IN
R OUT
Q1403 2SC2412K
Q1404 2SA1037K
MODE 1
MODE 2
GND
SDA
SCL
4 LEVEL
R
G
B
BLK
GND
C OUT
GND
Y OUT
GND
V OUT
GND
V TV IN
TO B BOARD B-41
B-554145<AEP>-J1.


I/O PORTS
4
5
6
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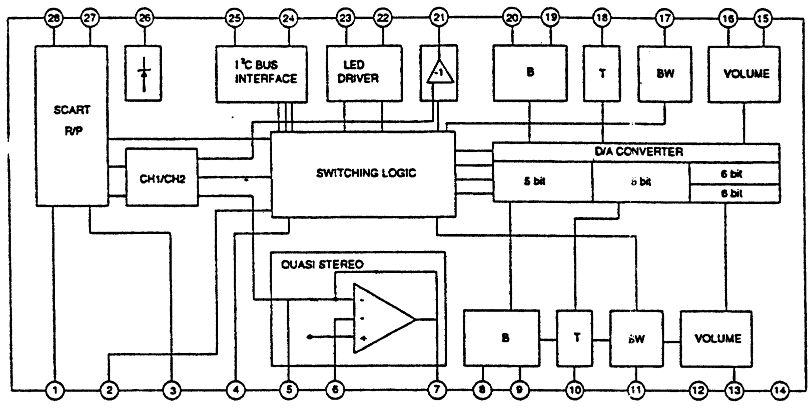
9
10
11
12

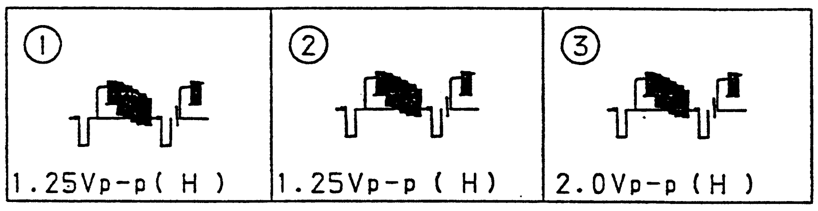
J1 Board IC201 TDA6200


SCART R/P
I²C BUS INTERFACE
LED DRIVER
B
T
BW
VOLUME
CH1/CH2
SWITCHING LOGIC
D/A CONVERTER
5 bit
6 bit
6 bit
6 bit
QUASI STEREO
B
T
BW
VOLUME

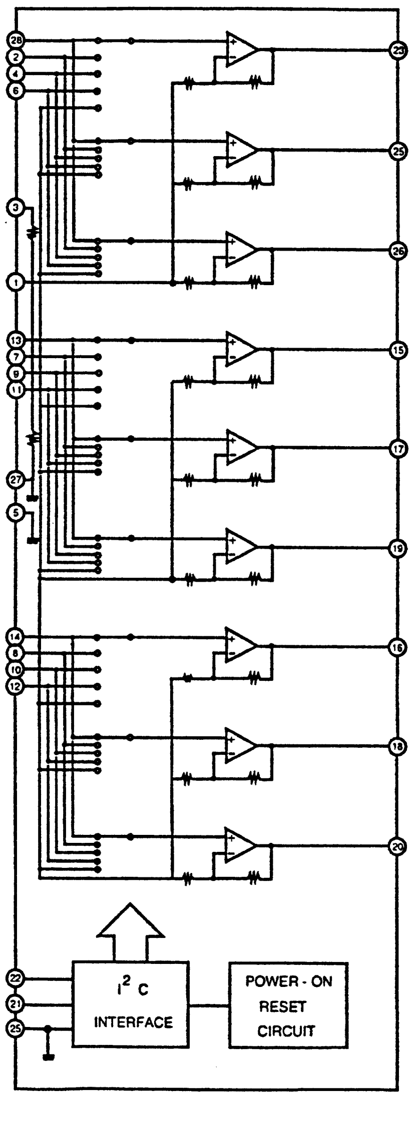
J1 Board

IC201	AUDIO CONTROL
IC1401	AV SW
IC1402	SCART VIDEO OUT
IC1403	COMPOSITE Y/C SW
IC1501	EAST-WEST CORRECTION
Q201	R AUDIO BUFFER
Q202	L AUDIO BUFFER
Q1401	VIDEO OUT
Q1402	VIDEO OUT BUFFER
Q1403	Y OUT BUFFER
Q1404	C OUT BUFFER
D201	PROTECT
D202	PROTECT
D205	PROTECT
D206	PROTECT
D1401	PROTECT
D1403	PROTECT
D1404	PROTECT
D1405	PROTECT
D1406	PROTECT
D1407	PROTECT
D1408	REGULATOR
D1409	PROTECT
D1410	PROTECT
D1415	PROTECT
D1418	PROTECT
D1419	PROTECT
D1420	PROTECT
D1421	PROTECT
D1422	PROTECT
D1423	PROTECT
D1424	PROTECT
D1425	PROTECT
D1426	PROTECT
D1501	PROTECT
D1502	CLIPPING H SIZE
D1503	CLIPPING V PARABOLA
D1504	CLIPPING H PULSE
D1505	REGULATOR
D1506	PROTECT
D1507	PROTECT
D1510	REGULATOR

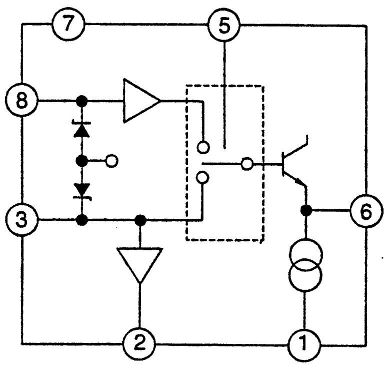
Waveforms J1 Board



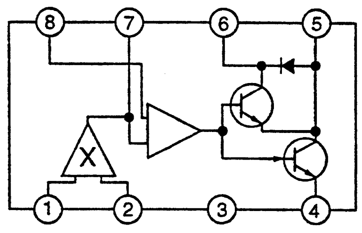
J1 Board IC1401 CXA1114P


I²C INTERFACE
POWER - ON RESET CIRCUIT

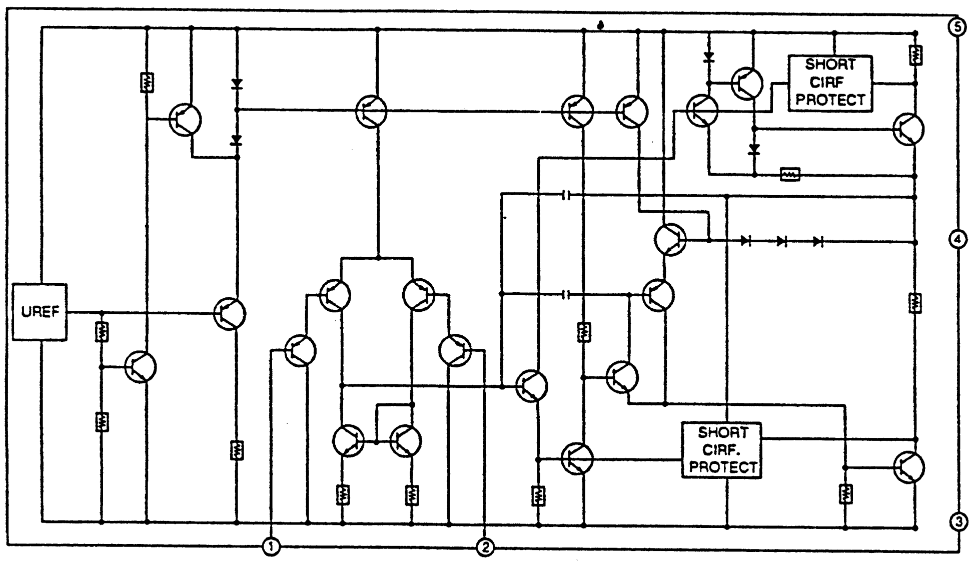
J1 Board IC1402 TEA2014A



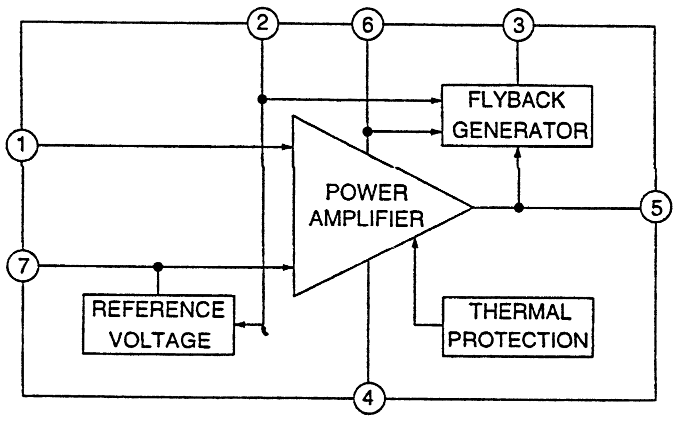
J1 Board IC1501 TEA2031A



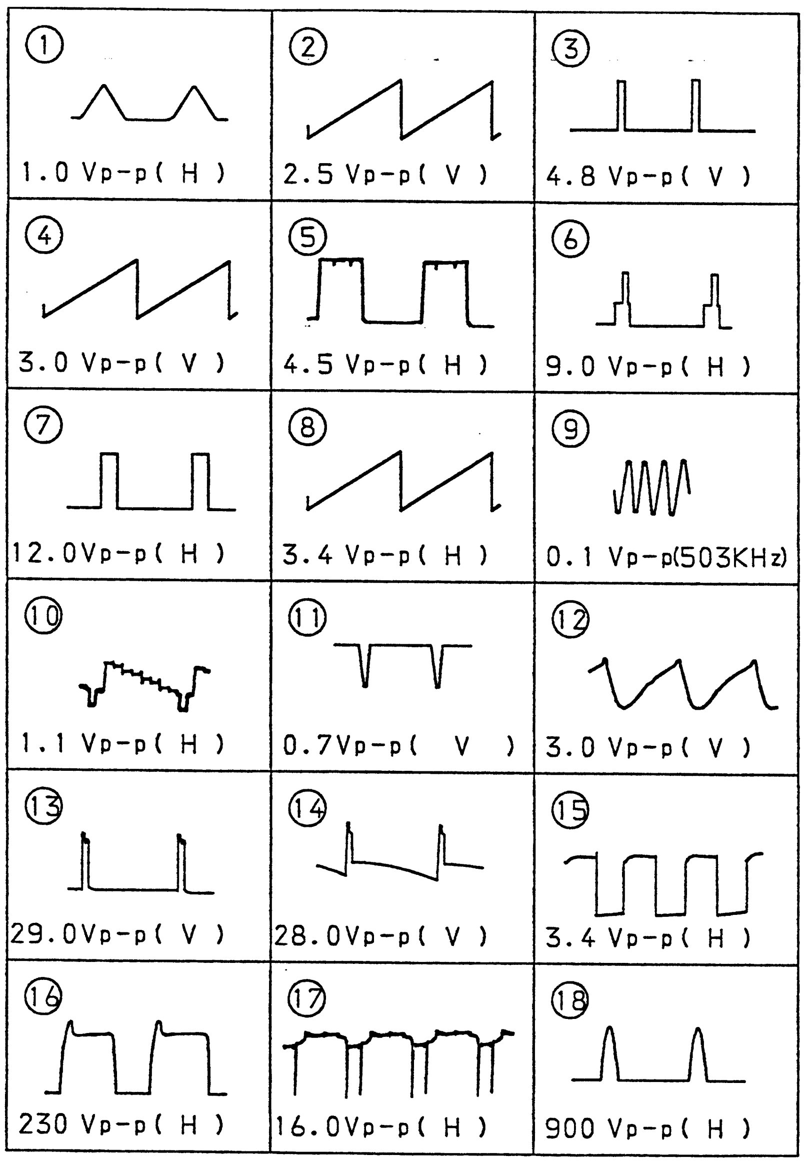
D Board IC251/IC261 TDA2050


SHORT CIRF PROTECT
UREF
SHORT CIRF. PROTECT
1
2
3
4
5

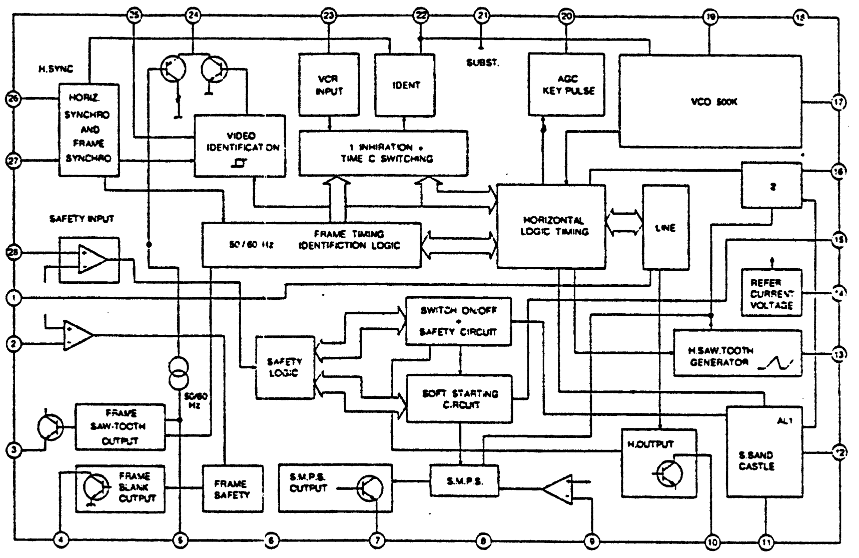
D Board IC502 TDA8170


FLYBACK GENERATOR
POWER AMPLIFIER
REFERENCE VOLTAGE
THERMAL PROTECTION
1
2
3
4
5
6
7

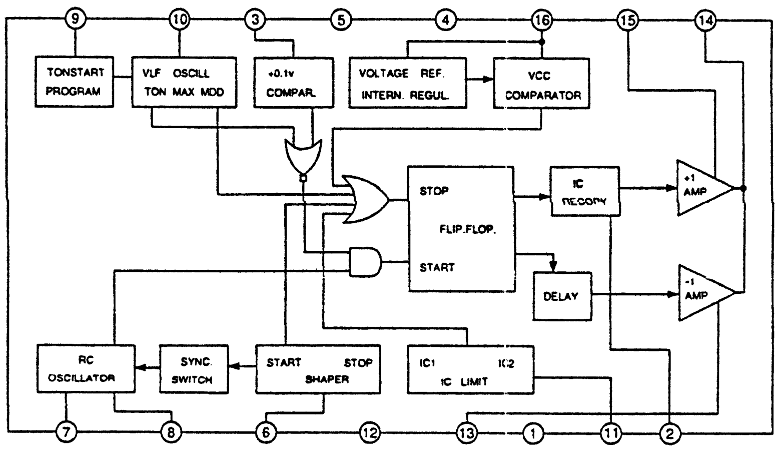
Waveform D Board



D Board IC501 TEA2028B


H.SYNC
HORIZ. SYNCHRO AND FRAME SYNCHRO
VIDEO IDENTIFICAT ON
VCR INPUT
IDENT
SUBST.
AGC KEY PULSE
VCO 500K
1 INHIRATION + TIME C SWITCHING
SAFETY INPUT
50/60 Hz
FRAME TIMING IDENTIFICTION LOGIC
HORIZONTAL LOGIC TIMING
LINE
2
REFER CURRENT VOLTAGE
SWITCH ON/OFF + SAFETY CIRCUIT
SAFETY LOGIC
SOFT STARTING CIRCUIT
H.SAW.TOOTH GENERATOR
50/60 Hz
FRAME SAW-TOOTH OUTPUT
H.OUTPUT
AL1
S.BAND CASTLE
FRAME BLANK OUTPUT
FRAME SAFETY
S.M.P.S. OUTPUT
S.M.P.S.

D Board IC601 TEA2260


TONSTART PROGRAM
VLF OSCILL TON MAX MOD
+0.1v COMPAR.
VOLTAGE REF. INTERN. REGUL.
VCC COMPARATOR
STOP
FLIP.FLOP.
START
IC RECOPY
+1 AMP
DELAY
-1 AMP
RC OSCILLATOR
SYNC. SWITCH
START STOP SHAPER
IC1 IC2 IC LIMIT
1
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3
4
5
6
7
8
9
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14
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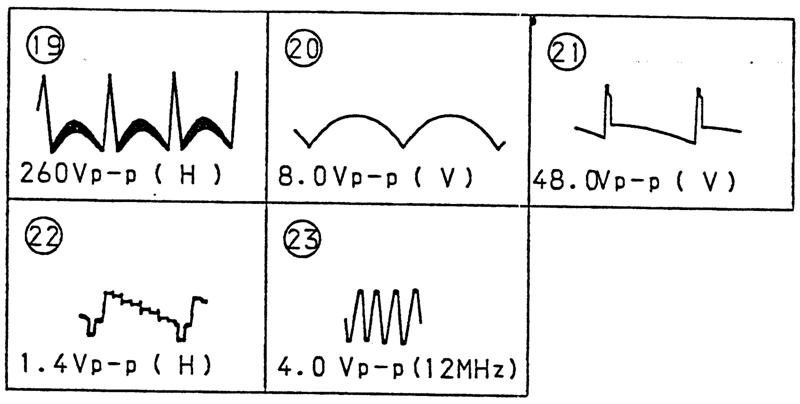
16



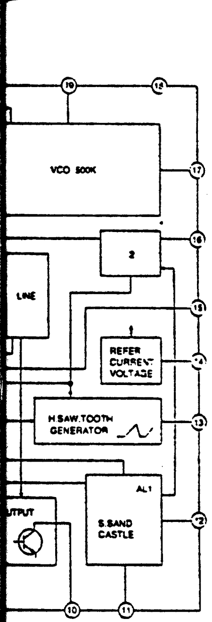
D Board
* Mark List

		21 inch	25 inch	29 inch
*1	C519	0.47	0.47	0.33
*2	C536	4.7uF	10uF	10uF
*3	C811	1uF	2uF	2uF
*4	C815	1uF	1uF	0.82uF
*5	C817	0.0106uF	0.015uF	0.017uF
*6	C821	680pF	680pF	470pF
*7	D506	DA204K	DA204K	———
*8	D509	———	1SS133	1SS133
*9	D514	5MM (JW)	5MM (JW)	1SS133
*10	D515	———	———	1SS133
*11	D807	———	ERC0615S	ERC06-15S
*12	D808	ERD28-08S	ERD29-08J	ERD29-08J
*13	JW202	———	———	5MM
*14	JW203	5MM	5MM	———
*15	JW204	5MM	5MM	———
*16	JW205	———	———	5MM
*17	JW206	5MM	5MM	———
*18	JW207	5MM	5MM	———
*19	JW216	15MM	15MM	———
*20	JW229	10MM	10MM	———
*21	L801	———	———	3.9MMH
*22	R093	10K	———	10K
*23	R525	1K	1K	———
*24	R531	———	120K	120K
*25	R532	———	1K	1K
*26	R533	180	0	0
*27	R535	4.7M	2.2M	2.2M
*28	R545	39K	22K	22K
*29	R547	5.6K	3.3K	3.3K
*30	R548	1.2	1	1
*31	R549	470	390	390
*32	R552	1.2K	———	———
*33	R561	———	———	270K
*34	R570	———	———	680
*35	R600	———	1	1
*36	R603	15	12	12
*37	R607	4.7K	4.7K	5.6K
*38	R643	0.15 2W	0.12 2W	0.12 2W
*39	R811	100 1W	22 2W F	22 2W F
*40	R812	75K 1/2W	68K 1/2W	51K 1/2W
*41	R825	1 1W	0.47 1W	0.47 1W
*42	R5503	4.7	4.7	10
*43	R5506	———	———	12K

——— NOT MOUNTED

D Board

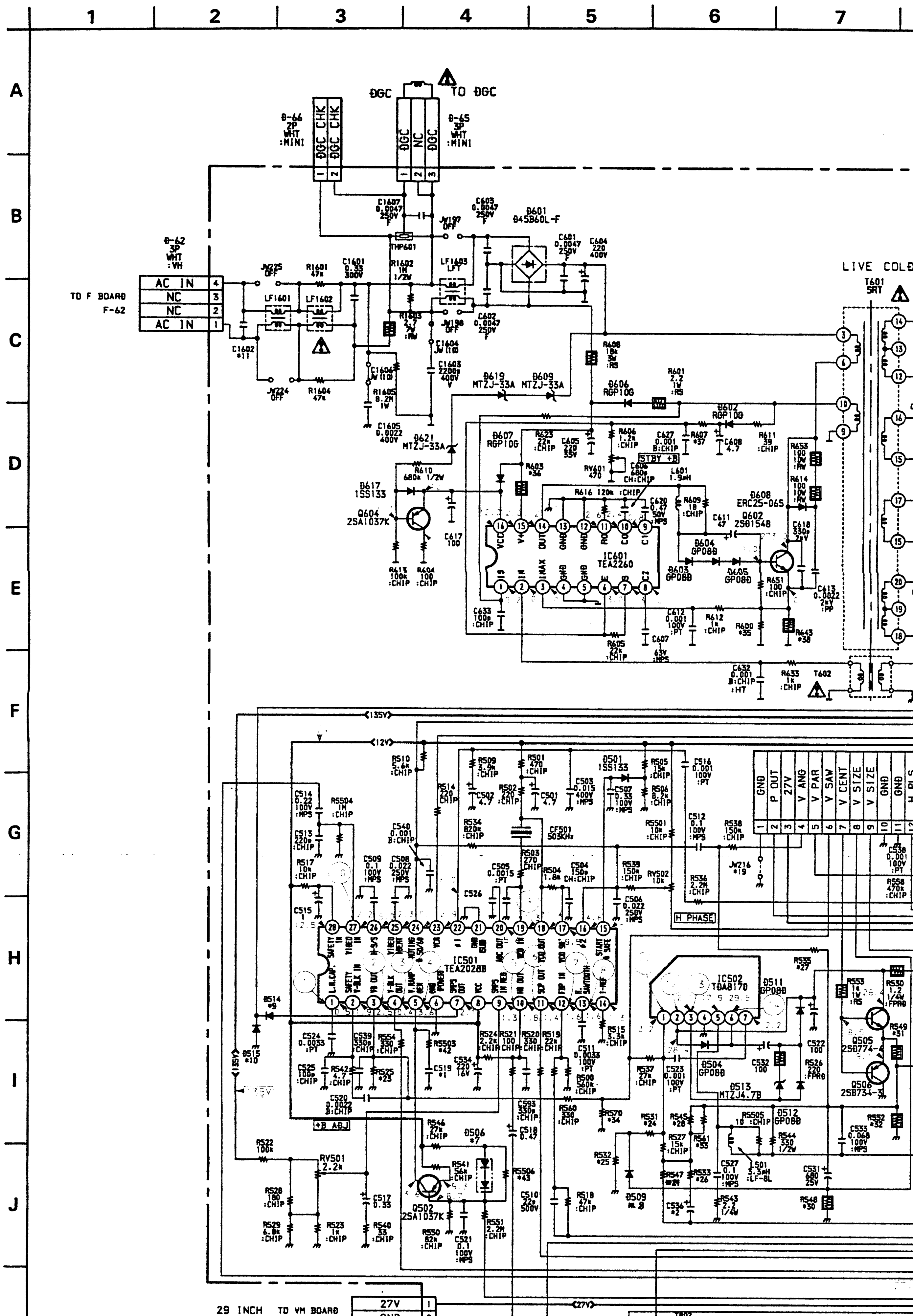
IC001	TUNING CTL
IC002	ON SCREEN DISPLAY
IC003	AFT COMPARATOR
IC005	MY MEMORY
IC251	AUDIO OUT (L)
IC261	AUDIO OUT (R)
IC501	DEFLECTION PROCESS
IC502	VERTICAL OUT
IC601	PRIMARY SMRS CTL
IC604	+5V REGULATOR
IC608	+12V REGULATOR
Q001	50/60Hz SWITCH
Q002	BLK SWITCH
Q003	SYNC SEPARATOR
Q004	SYNC SEPARATOR
Q005	Y/C SWITCH
Q006	FRONT REAR SWITCH
Q007	MODE 2 SWITCH
Q008	MODE 1 SWITCH
Q009	MUTE SWITCH
Q010	RESET
Q251	AUDIO MUTE
Q261	AUDIO MUTE
Q271	VOLTAGE DETECT
Q502	CONSTANT CURRENT S
Q505	VERTICAL CENTER
Q506	VERTICAL CENTER
Q507	CANAL +BLK
Q598	VIDEO AMP
Q601	STBY SWITCH
Q602	REG OUT
Q603	STBY SWITCH
Q604	FAST ON/OFF
Q605	STBY SWITCH
Q606	STBY SWITCH
Q607	+12V REGULATOR
Q608	STBY SWITCH
Q609	STBY SWITCH
Q801	ABL AMP
Q804	HORIZONTAL OUT
Q805	HORIZONTAL DRIVER
D001	PROTECT
D002	PROTECT
D003	HUE CTL
D005	PROTECT
D006	VC VOLTAGE REGULATI
D007	PLOT RESET
D009	CLIPPING SYNC LEVEL
D010	PROTECT
D011	PROTECT
D012	PROTECT
D013	PROTECT
D271	VOLTAGE DETECT
D272	DECOUPLING MUTE AUD
D501	START
D504	V PULSE OUT
D508	CANAL +BLK LEVEL
D509	V LIN
D511	PROTECT
D512	PROTECT
D513	PROTECT
D514	PROTECT
D515	PROTECT
D601	AC RECT
D602	REF RECT
D603	SMPS DRIVE 1
D604	SMPS DRIVE 2
D605	SMPS DRIVE 3
D606	+12V REC
D607	REF RECT
D608	PULSE CLIPPER
D609	FAST ON/OFF
D610	+14V RECT
D611	+135V RECT
D612	+7V RECT
D613	AF V RECT-1
D614	AF V RECT-2
D616	+12V REG
D617	PROTECT
D618	+12V REF
D619	FAST ON/OFF-2
D620	+12V REF
D621	FAST ON/OFF-3
D622	PROTECT
D623	DECOUPLING STBY
D624	DECOUPLING STBY
D630	+12V RECT
D801	+27V RECT
D802	+200V RECT
D803	G2 RECT
D804	H CENTER-1
D805	H CENTER-2
D806	H DAMPER-1
D807	H DAMPER-2
D808	PIN DAMPER



VCO 500K
LINE
REFER CURRENT VOLTAGE
H SAW TOOTH GENERATOR
AL1
S.SAND CASTLE

ard

001	TUNING CTL
002	ON SCREEN DISPLAY
003	AFT COMPARATOR
005	MY MEMORY
251	AUDIO OUT (L)
261	AUDIO OUT (R)
501	DEFLECTION PROCESSOR
502	VERTICAL OUT
01	PRIMARY SMRS CTL
04	+5V REGULATOR
08	+12V REGULATOR
01	50/60Hz SWITCH
02	BLK SWITCH
03	SYNC SEPARATOR
04	SYNC SEPARATOR
05	Y/C SWITCH
06	FRONT REAR SWITCH
07	MODE 2 SWITCH
08	MODE 1 SWITCH
09	MUTE SWITCH
10	RESET
51	AUDIO MUTE
61	AUDIO MUTE
71	VOLTAGE DETECT
02	CONSTANT CURRENT SOURCE
05	VERTICAL CENTER
06	VERTICAL CENTER
07	CANAL +BLK
98	VIDEO AMP
01	STBY SWITCH
02	REG OUT
03	STBY SWITCH
04	FAST ON/OFF
05	STBY SWITCH
06	STBY SWITCH
07	+12V REGULATOR
08	STBY SWITCH
09	STBY SWITCH
01	ABL AMP
04	HORIZONTAL OUT
05	HORIZONTAL DRIVER
01	PROTECT
02	PROTECT
03	HUE CTL
05	PROTECT
06	VC VOLTAGE REGULATION
07	PLOT RESET
09	CLIPPING SYNC LEVEL
10	PROTECT
11	PROTECT
12	PROTECT
13	PROTECT
71	VOLTAGE DETECT
72	DECOUPLING MUTE AUDIO
01	START
04	V PULSE OUT
08	CANAL +BLK LEVEL
09	V LIN
11	PROTECT
12	PROTECT
13	PROTECT
14	PROTECT
15	PROTECT
01	AC RECT
02	REF RECT
03	SMPS DRIVE 1
04	SMPS DRIVE 2
05	SMPS DRIVE 3
06	+12V REC
07	REF RECT
08	PULSE CLIPPER
09	FAST ON/OFF
10	+14V RECT
11	+135V RECT
12	+7V RECT
13	AF V RECT-1
14	AF V RECT-2
16	+12V REG
17	PROTECT
18	+12V REF
19	FAST ON/OFF-2
20	+12V REF
21	FAST ON/OFF-3
22	PROTECT
23	DECOUPLING STBY
24	DECOUPLING STBY
30	+12V RECT
01	+27V RECT
02	+200V RECT
03	G2 RECT
04	H CENTER-1
05	H CENTER-2
06	H DAMPER-1
07	H DAMPER-2
08	PIN DAMPER



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A
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D
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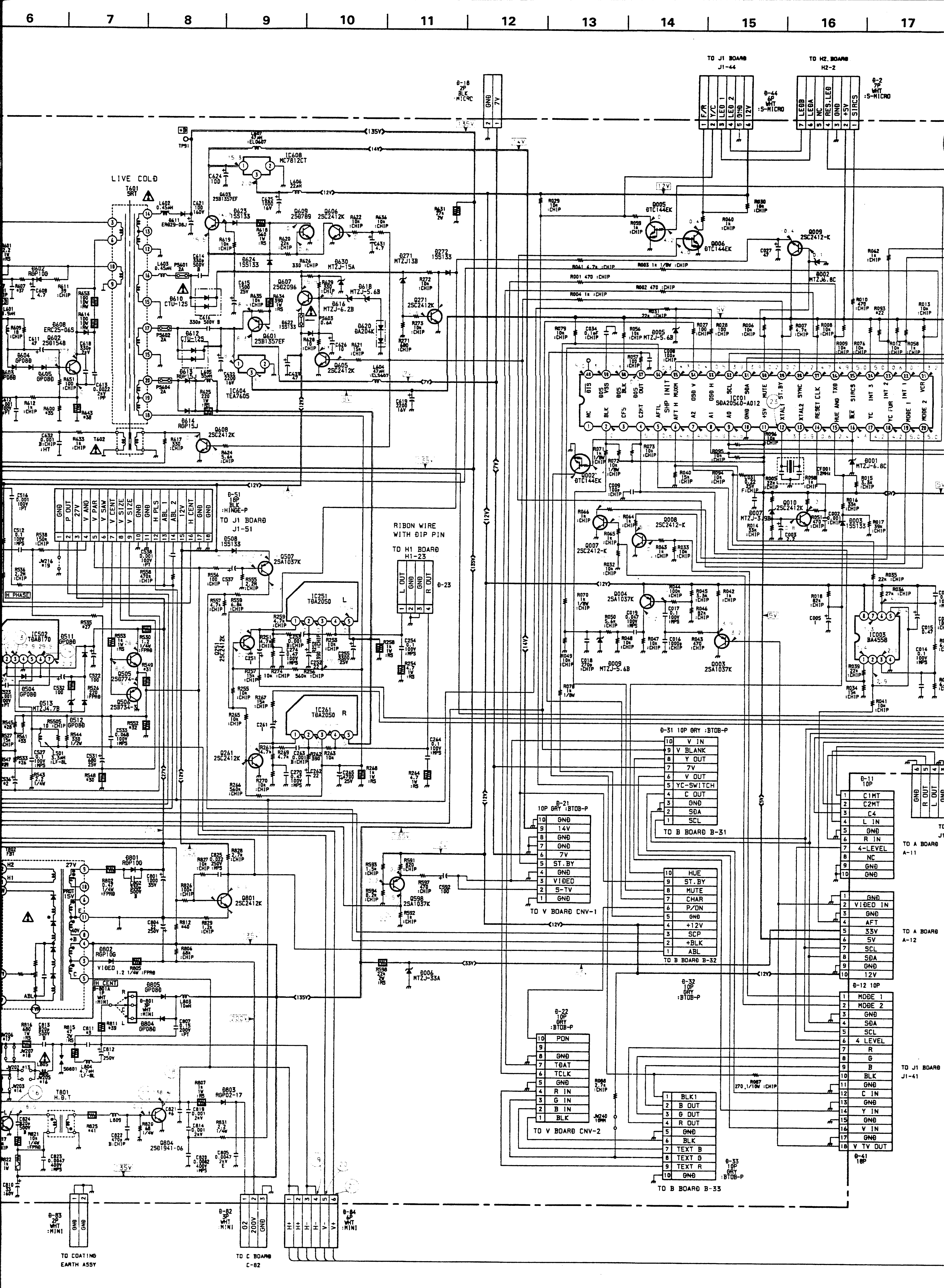
H
I
J
K
L
M
N
O
ĐGC
TO ĐGC
Đ-66 2P WHT :MINI
ĐGC CHK
Đ-65 3P WHT :MINI
ĐGC NC ĐGC
Đ601 Đ45B60L-F
Đ-62 3P WHT :VH
TO F BOARĐ F-62
AC IN
NC
NC
AC IN
LF1601
LF1602
LF1603 LFT
THP601
LIVE COLD
T601 SRT
Đ619 MTZJ-33A
Đ609 MTZJ-33A
Đ606 RGP10G
Đ602 RGP10G
Đ607 RGP10G
Đ621 MTZJ-33A
Đ617 1SS133
Q604 2SA1037K
IC601 TEA2260
Đ608 ERC25-06S
Q602 2SB1548
Đ604 GP08Đ
Đ605 GP08Đ
Đ603 GP08Đ
STBY +B
T602
(135V)
(12V)
IC501 TEA2028B
IC502 TDA8170
Đ501 1SS133
CF501 503KHz
H PHASE
GND
P OUT
27V
V ANG
V PAR
V SAW
V CENT
V SIZE
GND
+B ADJ
RV501 2.2k
Q502 2SA1037K
Đ506
Đ504 GP08Đ
Đ513 MTZJ4.7B
Đ511 GP08Đ
Đ512 GP08Đ
Q505 2SD774
Q506 2SB734
L501 3.3mH :LF-8L
Đ509
29 INCH ONLY
TO VM BOARĐ VM-88
27V
GND
Đ-88
RIBON WIRE WITH DIP PIN
TO C BOARĐ C-81
H2
NC
H1
Đ-81 3P :MICRO
T802 FBT
Đ801 RGP10G
Đ802 RGP10G
VIDEO
H CENT
Đ-801A 1P WHT :MINI
Đ804 GP08Đ
TO C BOARĐ
KG KB G2
V801 29 INCH A68JYL61X
25 INCH A59JWC61X
21 INCH A51JXN61X
PICTURE TUBE
CV KR G1 G4 HV
L810
L806
L805
L804 4.7mH :LF-8L
T801 H.D.T
Đ806 ERC06-15S
Q805 2SC2688-L
Đ807
Đ808
L809
Đ-83 2P WHT :MINI
GNĐ GNĐ
TO COATING EARTH ASSY



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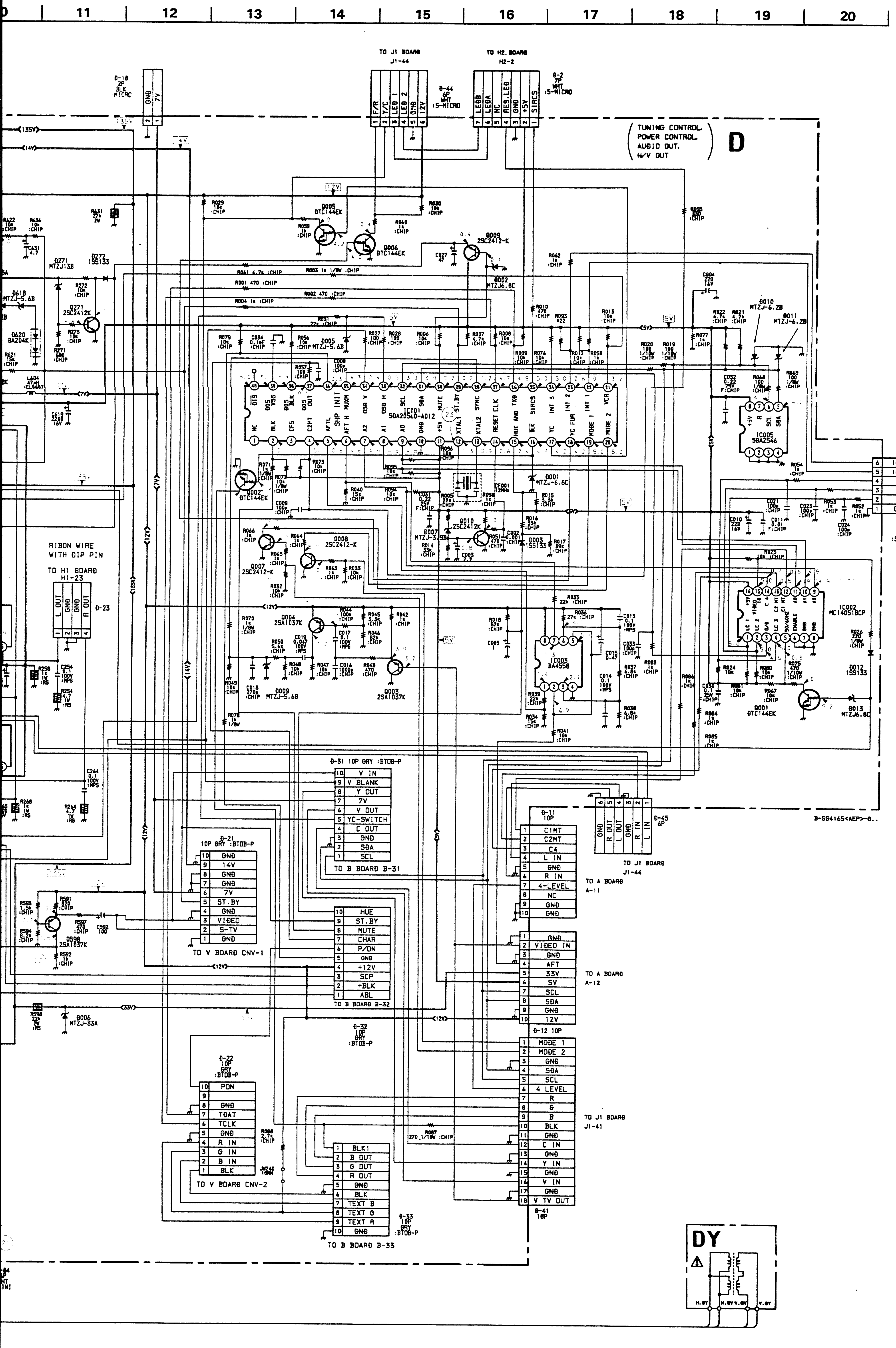
LIVE COLD
T601 SRT
IC608 MC7812CT
IC604 TEA7605
IC001 SDA20560-A012
IC003 BA4558
IC251 TDA2050 L
IC261 TDA2050 R
IC502 TDA8170
T801 H.B.T
TO J1 BOARD J1-44
TO H2 BOARD H2-2
TO J1 BOARD J1-51
RIBON WIRE WITH DIP PIN
TO H1 BOARD H1-23
TO B BOARD B-31
TO B BOARD B-32
TO B BOARD B-33
TO V BOARD CNV-1
TO V BOARD CNV-2
TO A BOARD A-11
TO A BOARD A-12
TO J1 BOARD J1-41
TO COATING EARTH ASSY
TO C BOARD C-82
H PHASE
H CENT



11
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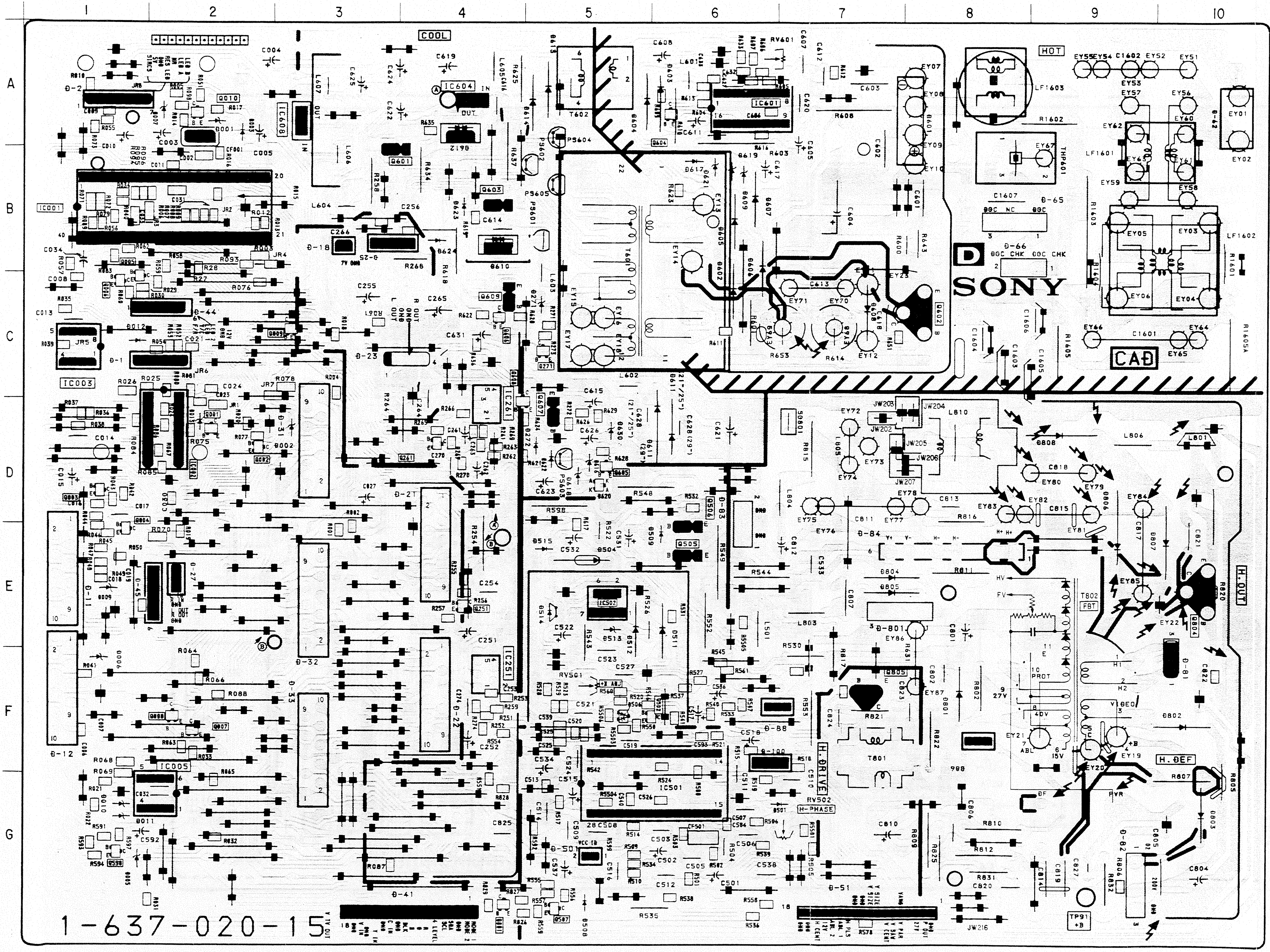
TUNING CONTROL
POWER CONTROL
AUDIO OUT.
H/V OUT
D
TO J1 BOARD J1-44
TO H2 BOARD H2-2
D-18 2P BLK :MICRO
GND
7V
D-44 6P WHT :S-MICRO
F/R
Y/C
LED 1
LED 2
GND
12V
D-2 7P WHT :S-MICRO
LEDB
LEDA
NC
RES.LED
GND
+5V
SIRCS
Q005 DTC144EK
Q006 DTC144EK
Q009 2SC2412-K
D002 MTZJ6.8C
Q271 2SC2412K
D271 MTZJ13B
D272 1SS133
D618 MTZJ-5.6B
D620 DA204K
IC001 SDA20540-A012
IC005 SDA2546
IC002 MC14051BCP
IC003 BA4558
Q002 DTC144EK
Q007 2SC2412-K
Q008 2SC2412-K
Q010 2SC2412K
Q004 2SA1037K
Q003 2SA1037K
Q001 DTC144EK
D001 MTZJ-6.8C
D003 1SS133
D007 MTZJ-3.9B
D009 MTZJ-5.6B
D010 MTZJ-6.2B
D011 MTZJ-6.2B
D012 1SS133
D013 MTZJ6.8C
CF001 12MHz
RIBON WIRE WITH DIP PIN
TO H1 BOARD H1-23
L OUT
GND
GND
R OUT
D-23
INT 2
INT 1
LC3
LC2
LC1
GND
TO H1 BOARD H1-1
D-1 6P RED :S-MICRO
D-31 10P GRY :BTOB-P
V IN
V BLANK
Y OUT
7V
V OUT
YC-SWITCH
C OUT
GND
SDA
SCL
TO B BOARD B-31
D-21 10P GRY :BTOB-P
GND
14V
GND
GND
7V
ST.BY
GND
VIDEO
S-TV
GND
TO V BOARD CNV-1
HUE
ST.BY
MUTE
CHAR
P/ON
GND
+12V
SCP
+BLK
ABL
TO B BOARD B-32
D-32 10P GRY :BTOB-P
D-45 6P
GND
R OUT
L OUT
GND
R IN
L IN
TO J1 BOARD J1-44
D-11 10P
C1MT
C2MT
C4
L IN
GND
R IN
4-LEVEL
NC
GND
GND
TO A BOARD A-11
GND
VIDEO IN
GND
AFT
33V
5V
SCL
SDA
GND
12V
TO A BOARD A-12
D-12 10P
MODE 1
MODE 2
GND
SDA
SCL
4 LEVEL
R
G
B
BLK
GND
C IN
GND
Y IN
GND
V IN
GND
V TV OUT
TO J1 BOARD J1-41
D-41 18P
D-22 10P GRY :BTOB-P
PON
GND
TDAT
TCLK
GND
R IN
G IN
B IN
BLK
TO V BOARD CNV-2
BLK1
B OUT
G OUT
R OUT
GND
BLK
TEXT B
TEXT G
TEXT R
GND
D-33 10P GRY :BTOB-P
TO B BOARD B-33
Q598 2SA1037K
D006 MTZJ-33A
B-SS4165<AEP>-B..
DY
H.DY
H.DY V.DY
V.DY

D TUNING CONTROL, POWER CONTROL. AUDIO OUT, HV OUT

600 Vp-p. Care must be paid to prevent an electric shock during inspection or repair.

– D Board –

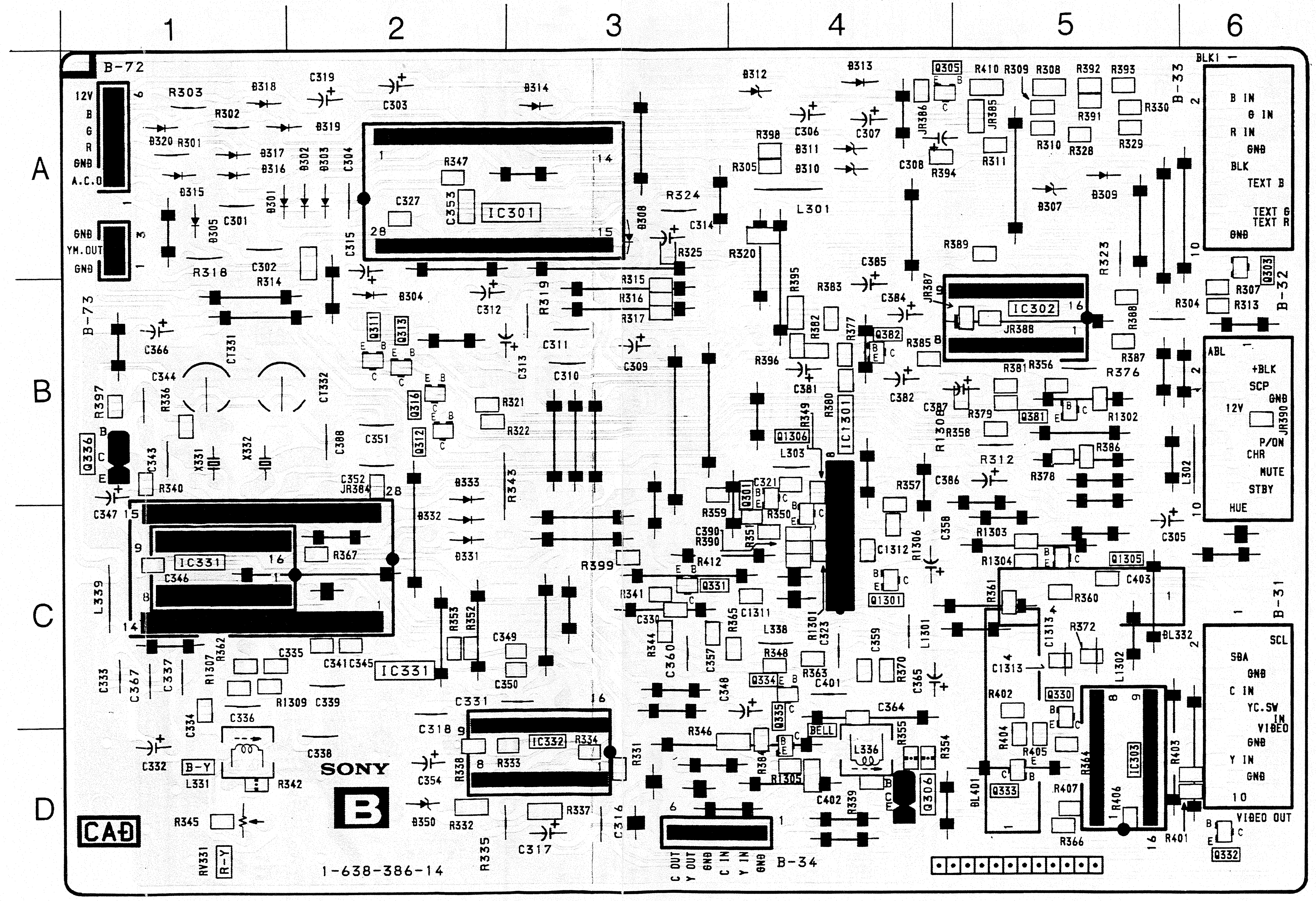

1 2 3 4 5 6 7 8 9 10
A B C D E F G
1-637-020-15
SONY
D
COOL
HOT
IC001
IC003
IC005
IC251
IC261
IC501
IC502
IC601
IC604
IC608
H.OUT
H.DRIVE
H-PHASE
H.DEF
CAD
T802 FBT
T801
T602
LF1601
LF1602
LF1603
TP91 +B

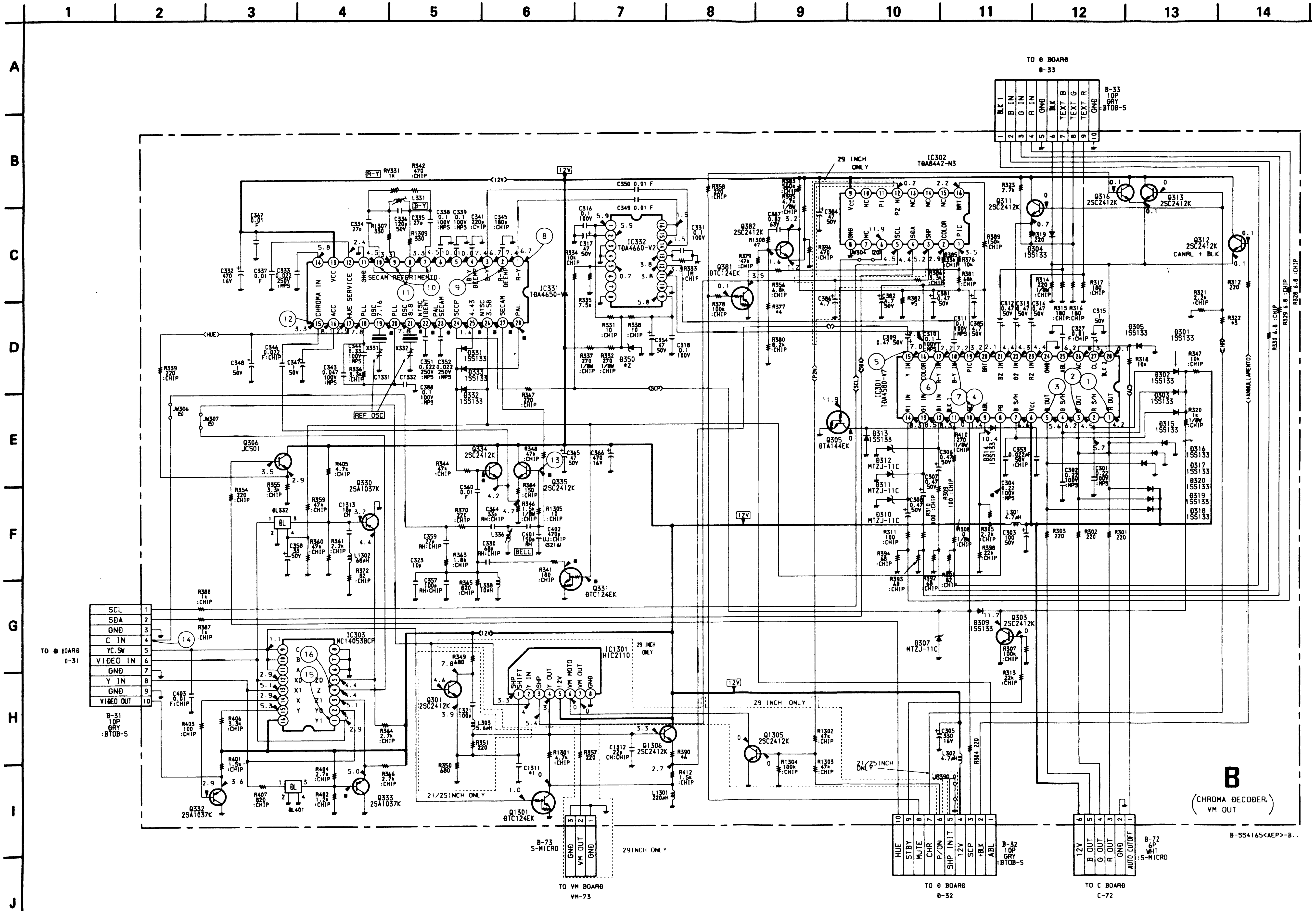
IC	
IC001	B - 2
IC002	D - 2
IC003	C - 1
IC005	G - 2
IC251	F - 4
IC261	D - 4
IC501	G - 6
IC502	E - 5
IC601	A - 6
IC604	A - 4
IC608	A - 3
TRANSISTOR	
Q001	D - 2
Q002	D - 3
Q003	D - 1
Q004	E - 2
Q005	C - 1
Q006	C - 1
Q007	F - 2
Q008	F - 2
Q009	C - 3
Q010	A - 2
Q251	E - 4
Q261	D - 4
Q271	C - 5
Q502	F - 5
Q505	E - 6
Q506	E - 6
Q507	H - 5
Q598	G - 1
Q601	B - 3
Q602	C - 8
Q603	B - 4
Q604	A - 6
Q605	D - 5
Q606	C - 4
Q607	D - 5
Q608	C - 4
Q608	C - 4
Q609	C - 4
Q801	H - 4
Q804	E - 10
Q805	F - 7
DIODE	
D003	A - 2
D002	D - 3
D003	A - 2
D005	G - 1
D006	F - 1
D007	A - 2
D009	E - 1
D010	G - 1
D011	G - 1
D012	C - 1
D013	D - 2
D271	C - 5
D272	D - 5
D501	G - 7
D504	E - 5
D506	F - 5
D508	H - 5
D509	E - 6
D511	E - 6
D512	E - 5
D513	E - 5
D601	A - 8
D602	C - 6
D603	A - 6
D604	A - 5
D605	B - 6
D606	B - 6
D607	B - 6
D608	C - 7
D609	B - 6
D610	B - 4
D611	D - 6
D612	A - 4
D613	A - 5
D614	A - 5
D616	D - 5
D617	B - 6
D618	D - 5
D619	B - 6
D620	D - 5
D621	B - 6
D622	D - 5
D623	B - 4
D624	B - 4
D630	D - 5
D801	F - 8
D802	F - 10
D803	G - 10
D804	E - 7
D805	E - 7
D806	E - 9
D807	E - 10
D808	D - 9
TP	
TP91	J - 9

IC	
IC301	A - 2
IC302	B - 5
IC303	D - 5
IC331	C - 1
IC332	D - 3
IC1301	B - 4
TRANSISTOR	
Q301	B - 4
Q303	A - 6
Q305	A - 4
Q306	D - 4
Q311	B - 2
Q312	B - 2
Q313	B - 2
Q316	B - 2
Q330	C - 5
Q331	C - 3
Q332	D - 6
Q333	D - 5
Q334	C - 4
Q381	B - 5
Q382	B - 4
Q1301	C - 4
Q1305	C - 5
Q1306	C - 4
DIODE	
D301	A - 1
D302	A - 2
D303	A - 2
D304	B - 2
D305	A - 1
D307	A - 5
D309	A - 5
D310	A - 4
D311	A - 4
D312	A - 4
D313	A - 4
D314	A - 3
D315	A - 1
D316	A - 1
D317	A - 1
D318	A - 1
D319	A - 1
D320	A - 1
D331	C - 2
D332	C - 2
D333	B - 2
D350	D - 2
TRIMMER	
CT331	B - 1
CT332	B - 1
COIL	
L331	D - 1
L336	D - 4
VARIABLE RESISTOR	
RV331	D - 1

– B Board –

B [CHROMA DECODER]


1
2
3
4
5
6
A
B
C
D
B-72
12V
B
G
R
GND
A.C.O
GND
YM.OUT
GND
B-73
B-33
B IN
G IN
R IN
GND
BLK
TEXT B
TEXT G
TEXT R
GND
BLK1
B-32
ABL
+BLK
SCP
GND
12V
P/ON
CHR
MUTE
STBY
HUE
B-31
SCL
SDA
GND
C IN
YC.SW IN
VIDEO
GND
Y IN
GND
VIDEO OUT
B-34
C OUT
Y OUT
GND
C IN
Y IN
GND
IC301
IC302
IC303
IC331
IC332
IC1301
BELL
B-Y
R-Y
SONY
B
CAD
1-638-386-14


B
(CHROMA DECODER, VM OUT)
B-SS4165<AEP>-B..
TO B BOARD B-33
B-33 10P GRY :BTOB-S
BLK 1
B IN
G IN
R IN
GND
BLK
TEXT B
TEXT G
TEXT R
GND
IC331 TDA4650-V4
IC332 TDA4660-V2
IC302 TDA8442-N3
IC301 TDA4580-V7
IC303 MC14053BCP
IC1301 HIC2110
29 INCH ONLY
21/25INCH ONLY
SECAM REFERIMENTO
REF OSC
BELL
CANAL + BLK
ANNULLAMENTO
TO B BOARD B-31
B-31 10P GRY :BTOB-S
SCL
SDA
GND
C IN
YC.SW
VIDEO IN
GND
Y IN
GND
VIDEO OUT
B-73 S-MICRO
GND
VM OUT
GND
TO VM BOARD VM-73
29INCH ONLY
B-32 10P GRY :BTOB-S
HUE
STBY
MUTE
CHR
P/ON
SHP INIT
12V
SCP
+BLK
ABL
TO B BOARD B-32
B-72 6P WHT :S-MICRO
12V
B OUT
G OUT
R OUT
GND
AUTO CUTOFF
TO C BOARD C-72
Q306 JC501
Q330 2SA1037K
Q332 2SA1037K
Q333 2SA1037K
Q334 2SC2412K
Q335 2SC2412K
Q331 DTC124EK
Q301 2SC2412K
Q1301 DTC124EK
Q1305 2SC2412K
Q1306 2SC2412K
Q381 DTC124EK
Q382 2SC2412K
Q305 DTA144EK
Q311 2SC2412K
Q316 2SC2412K
Q313 2SC2412K
Q312 2SC2412K
Q303 2SC2412K
Q307 MTZJ-11C
Q309 1SS133

B Board

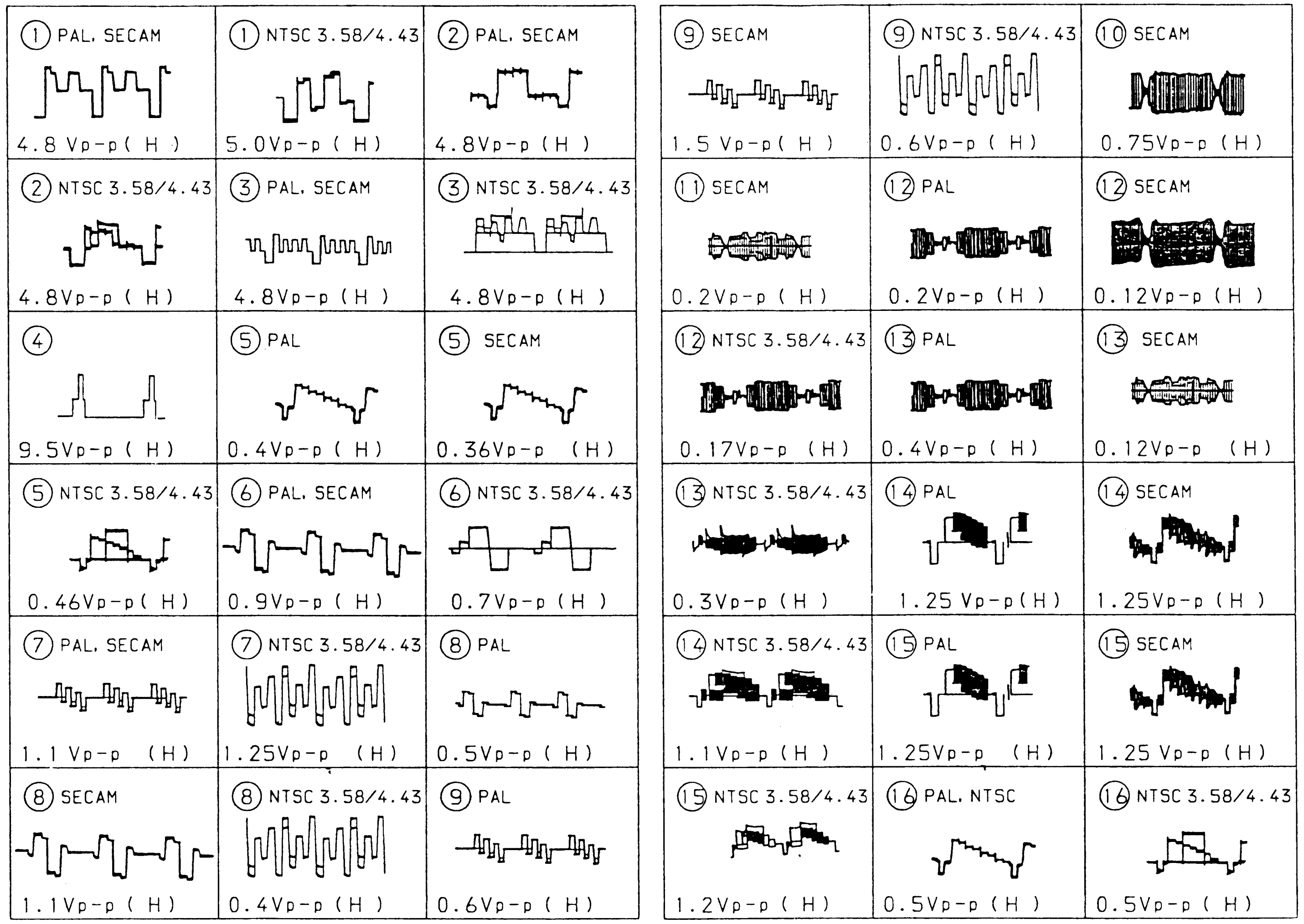
IC301	VIDEO PROCESSOR
IC302	D/A CONVERTER
IC303˙	Y/C COMP SWITCH
IC331	COLOR PROCESSOR
IC332	IH-DELAY
IC1301	SHARPNESS CONTROL (29 inch)
Q301	Y AMP (21,25 inch)
Q303	STBY SWITCH
Q305	ANTI PRIORITY SCART
Q306	VIDEO BUFFER (HUE)
Q311	ON SCREEN DISPLAY SWITCH
Q312	CANRL +BLK
Q313	ON SCREEN DISPLAY
Q316	FAS PICTURE MUTE SWITCH
Q330	VIDEO AMP
Q331	NTSC SWITCH
Q332	VIDEO BUFFER
Q333	Y AMP
Q334	PAL/NTSC SWITCH
Q335	SECAM SWITCH
Q381	MUTE
Q1301	Y BUFFER
Q1305	Y OUT (29 inch)
Q1306	Y OUT
D301	ACO AT STBY
D302	ACO AT STBY
D303	ACO AT STBY
D304	DECOUPLING BLK
D305	PROTECT
D307	PROTECT
D309	PROTECT
D310	PROTECT
D311	PROTECT
D312	PROTECT
D313	PROTECT
D314	PROTECT
D315	PROTECT
D316	PROTECT
D317	PROTECT
D318	PROTECT
D319	PROTECT
D320	PROTECT
D331	SECAM SWITCH
D332	SECAM SWITCH
D333	SECAM SWITCH
D350	PROTECT

B Board
* Mark List

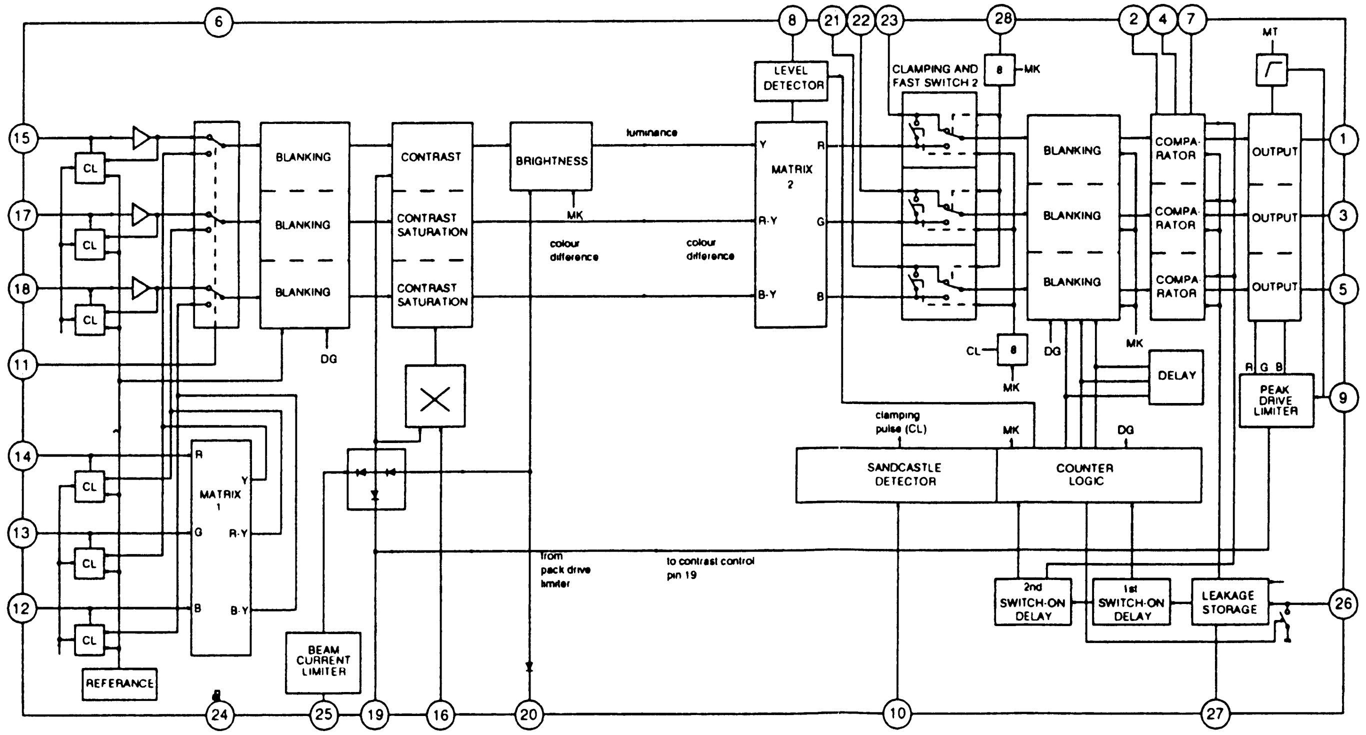
		21 inch	25 inch	29 inch
*1	C1311	56pF	56pF	33pF
*2	D350	MTZJ 5.6C	MTZJ 5.6B	MTZJ 5.6B
*3	R322	1K	1K	1.2K
*4	R377	330	330	1.8K
*5	R382	270K	220K	180K
*6	R390	220	220	100
*7	R1308	0	0	4.7K

		PAL	SECAM	NTSC3.58	NTSC4.43
IC301	⑧	0.1	0.1	5.8	0.1
	㉖	6.7	6.8	5.1	6.5
IC331	⑲	3.1	3.6	3.1	2.8
	㉑	3.0	3.5	2.9	2.7
	㉒	5.6	5.6	7.1	7.2
	㉓	7.5	7.0	5.6	5.6
	㉕	0.1	0.1	0.1	5.8
	㉖	0.1	0.1	5.8	0.1
	㉗	0.1	5.8	0.1	0.1
	㉘	5.9	0.1	0.1	0.1
Q331	(B)	0.1	0.1	5.8	0.1
	(C)	0.3	0.4	0	0.8
Q333	(B)	4.4	4.4	4.4	4.4
Q334	(B)	4.9	0.1	4.8	4.8
Q335	(B)	0.1	4.8	0.1	0.1

Waveform B Board

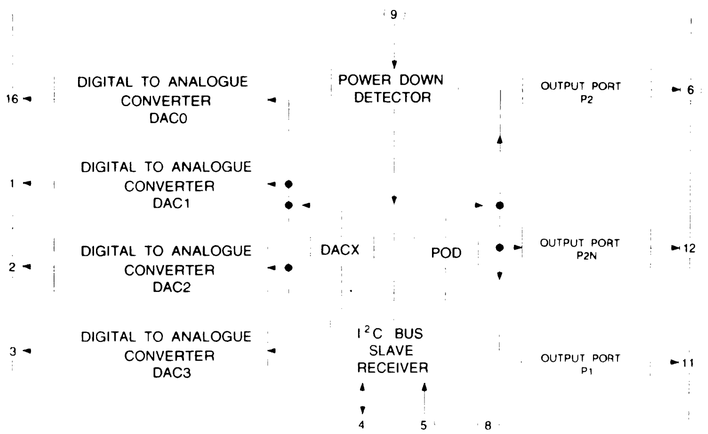


B Board IC301 TDA4580V7

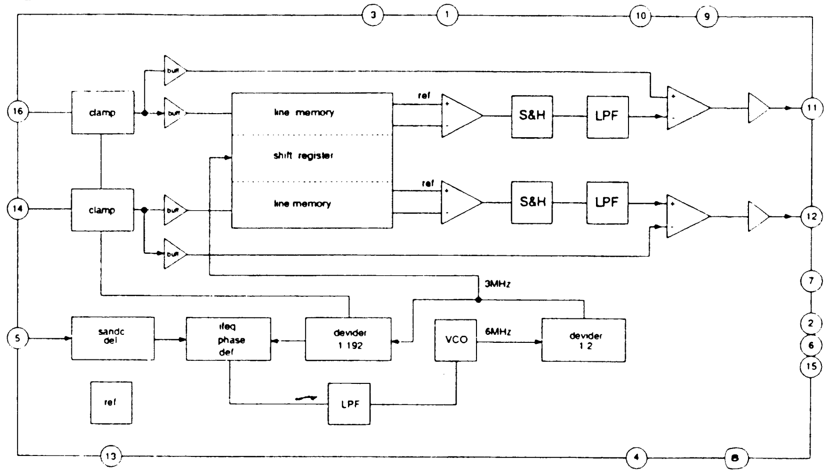

6
8
21
22
23
28
2
4
7
LEVEL DETECTOR
CLAMPING AND FAST SWITCH 2
MK
MT
15
17
18
11
14
13
12
CL
BLANKING
CONTRAST
CONTRAST SATURATION
BRIGHTNESS
luminance
colour difference
MATRIX 2
Y
R-Y
B-Y
R
G
B
COMPA RATOR
OUTPUT
1
3
5
DG
DELAY
PEAK DRIVE LIMITER
9
MATRIX 1
clamping pulse (CL)
SANDCASTLE DETECTOR
COUNTER LOGIC
REFERANCE
BEAM CURRENT LIMITER
from pack drive limiter
to contrast control pin 19
2nd SWITCH-ON DELAY
1st SWITCH-ON DELAY
LEAKAGE STORAGE
26
24
25
19
16
20
10
27

— 51 —

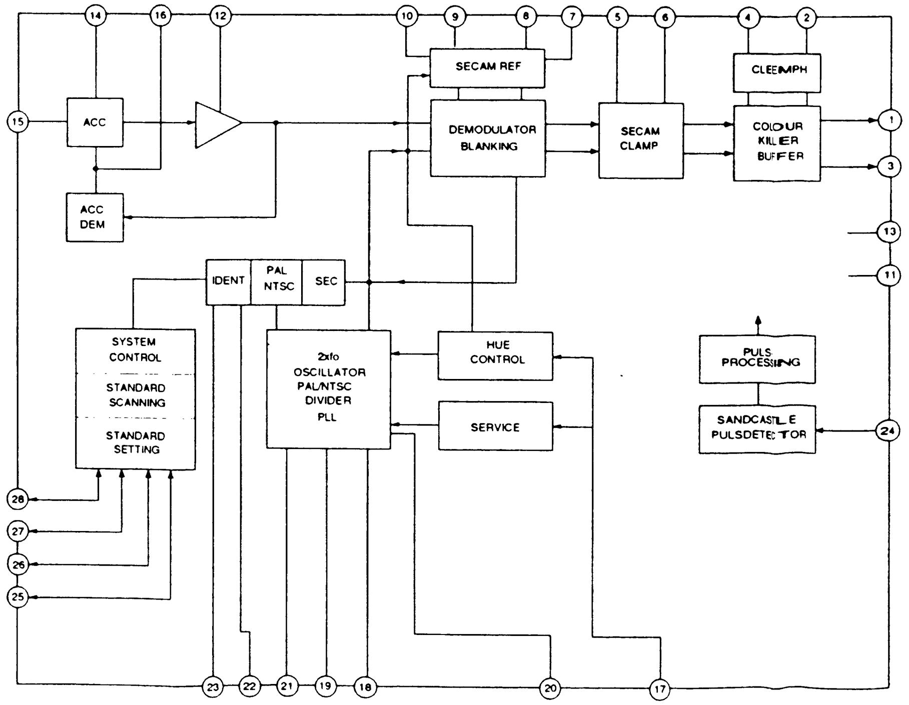
B Board IC302 TDA8442-N3


9
16
DIGITAL TO ANALOGUE CONVERTER DAC0
POWER DOWN DETECTOR
OUTPUT PORT P2
6
1
DIGITAL TO ANALOGUE CONVERTER DAC1
2
DIGITAL TO ANALOGUE CONVERTER DAC2
DACX
POD
OUTPUT PORT P2N
12
3
DIGITAL TO ANALOGUE CONVERTER DAC3
I²C BUS SLAVE RECEIVER
OUTPUT PORT P1
11
4
5
8

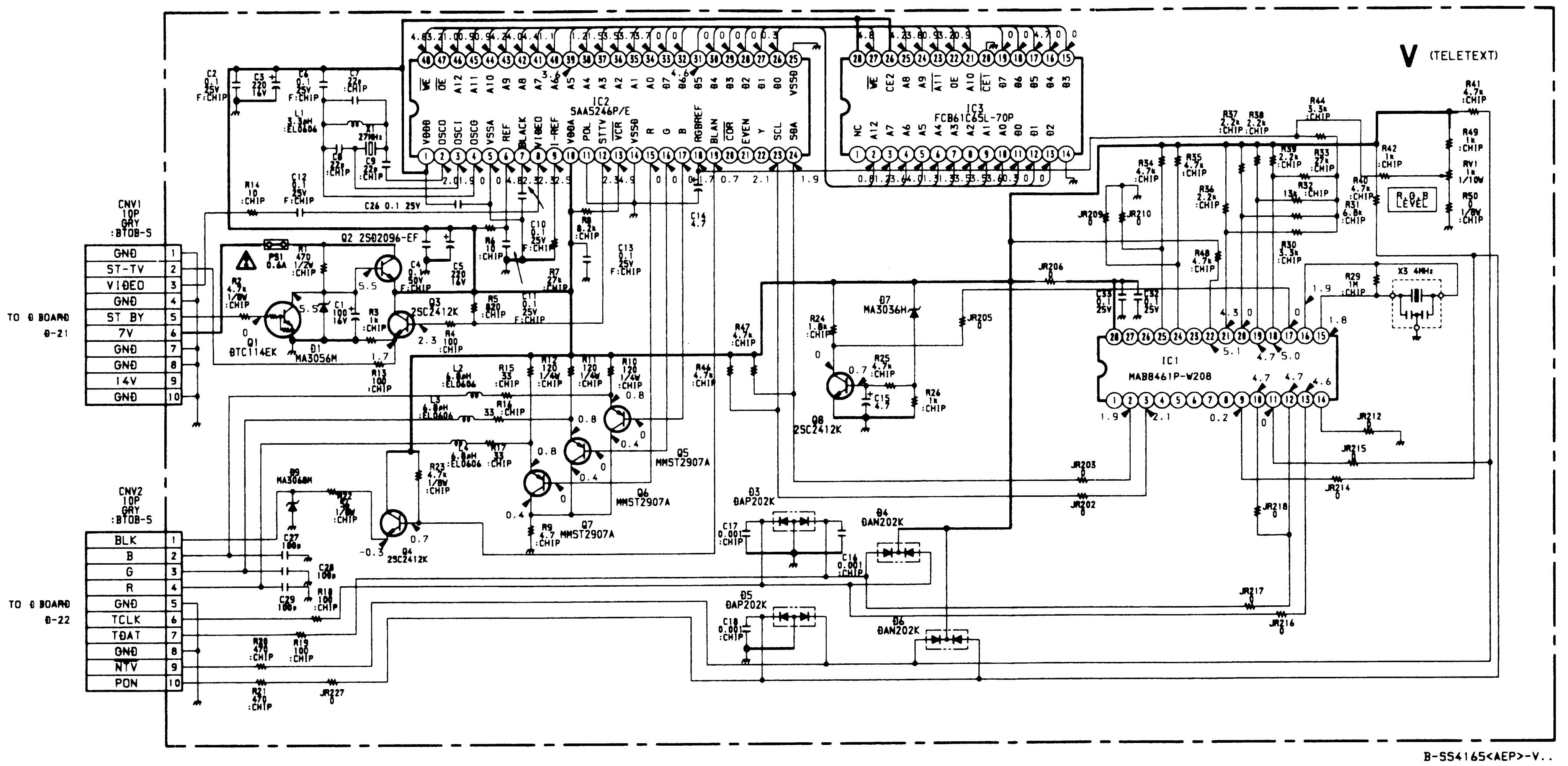
B Board IC332 TDA4660V2


3
1
10
9
16
14
5
clamp
buff
line memory
shift register
ref
S&H
LPF
11
12
3MHz
6MHz
sandc det
ifeq phase det
devider 1:192
VCO
devider 1:2
ref
LPF
7
2
6
15
13
4
8

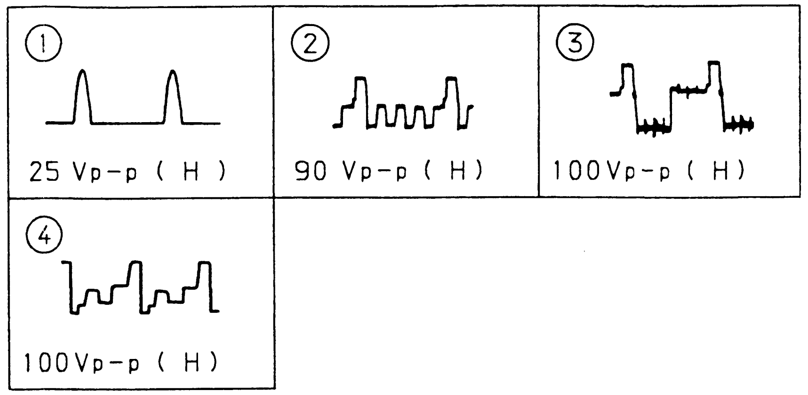
B Board IC331 TDA4650


14
16
12
10
9
8
7
5
6
4
2
15
ACC
ACC DEM
SECAM REF
DEMODULATOR BLANKING
SECAM CLAMP
CLEEMPH
COLOUR KILLER BUFFER
1
3
13
11
IDENT
PAL NTSC
SEC
SYSTEM CONTROL
STANDARD SCANNING
STANDARD SETTING
2xfo OSCILLATOR PAL/NTSC DIVIDER PLL
HUE CONTROL
SERVICE
PULS PROCESSING
SANDCASTLE PULSDETECTOR
24
28
27
26
25
23
22
21
19
18
20
17

— 52 —


V (TELETEXT)
CNV1 10P GRY :BTOB-S
GND 1
ST-TV 2
VIDEO 3
GND 4
ST BY 5
7V 6
GND 7
GND 8
14V 9
GND 10
TO B BOARD B-21
CNV2 10P GRY :BTOB-S
BLK 1
B 2
G 3
R 4
GND 5
TCLK 6
TDAT 7
GND 8
NTV 9
PON 10
TO B BOARD B-22
IC2 SAA5246P/E
IC3 FCB61C65L-70P
IC1 MAB8461P-W208
Q1 DTC114EK
Q2 2SD2096-EF
Q3 2SC2412K
Q4 2SC2412K
Q5 MMST2907A
Q6 MMST2907A
Q7 MMST2907A
Q8 2SC2412K
D1 MA3056M
D3 DAP202K
D4 DAN202K
D5 DAP202K
D6 DAN202K
D7 MA3036H
D9 MA3068M
X1 27MHz
X3 4MHz
R.G.B LEVEL
B-SS4165<AEP>-V..

Waveform C Board

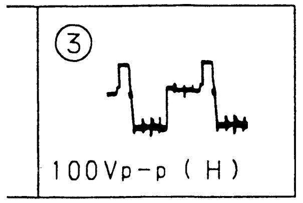


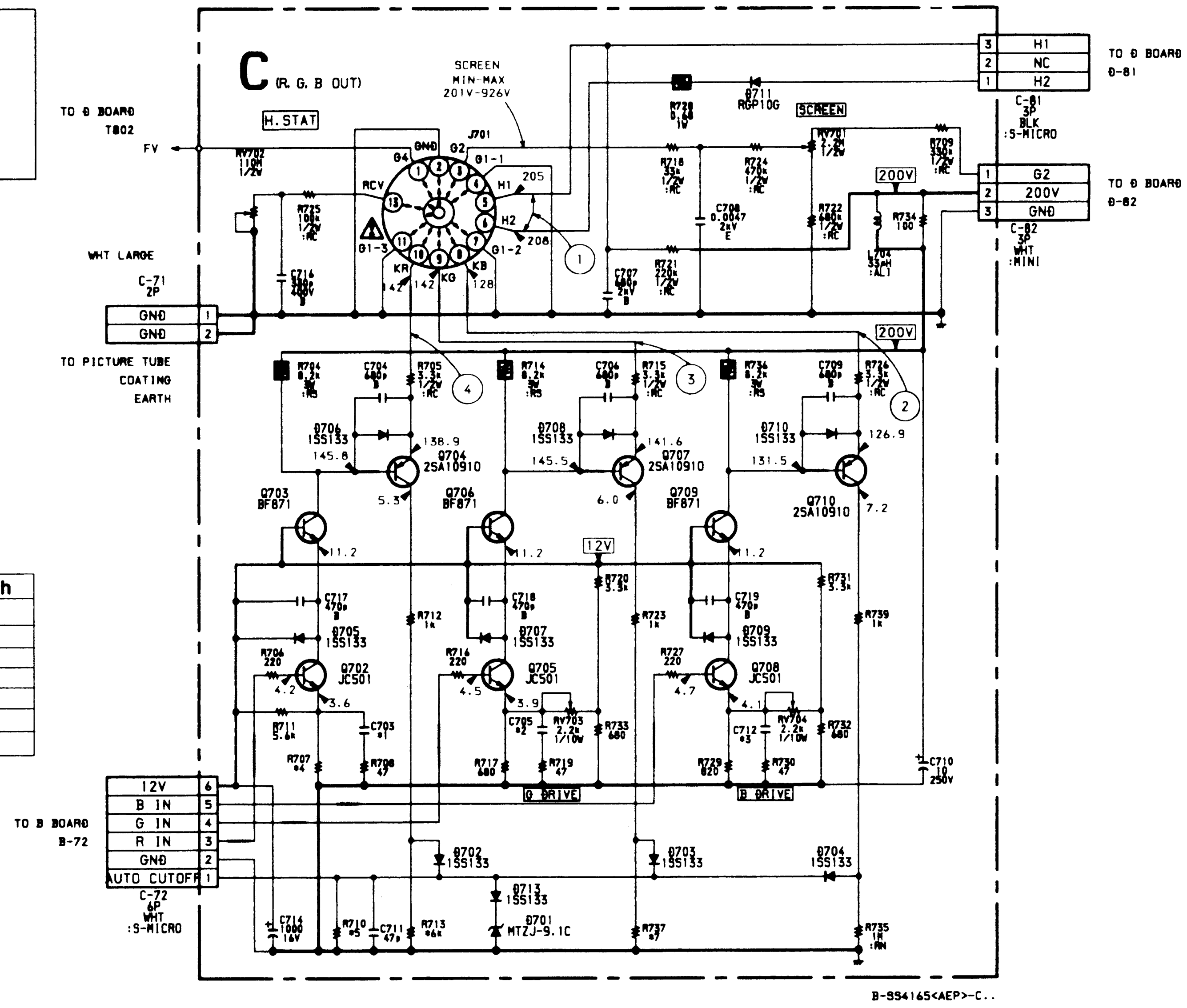
C Board
* Mark List

	21 inch	25 inch	29 inch
*1 C703	270pF	270pF	330pF
*2 C705	180pF	220pF	270pF
*3 C712	270pF	270pF	330pF
*4 R707	430	390	390
*5 R710	100K	68K	68K
*6 R713	160K	120K	120K
*7 R737	390K	820K	470K

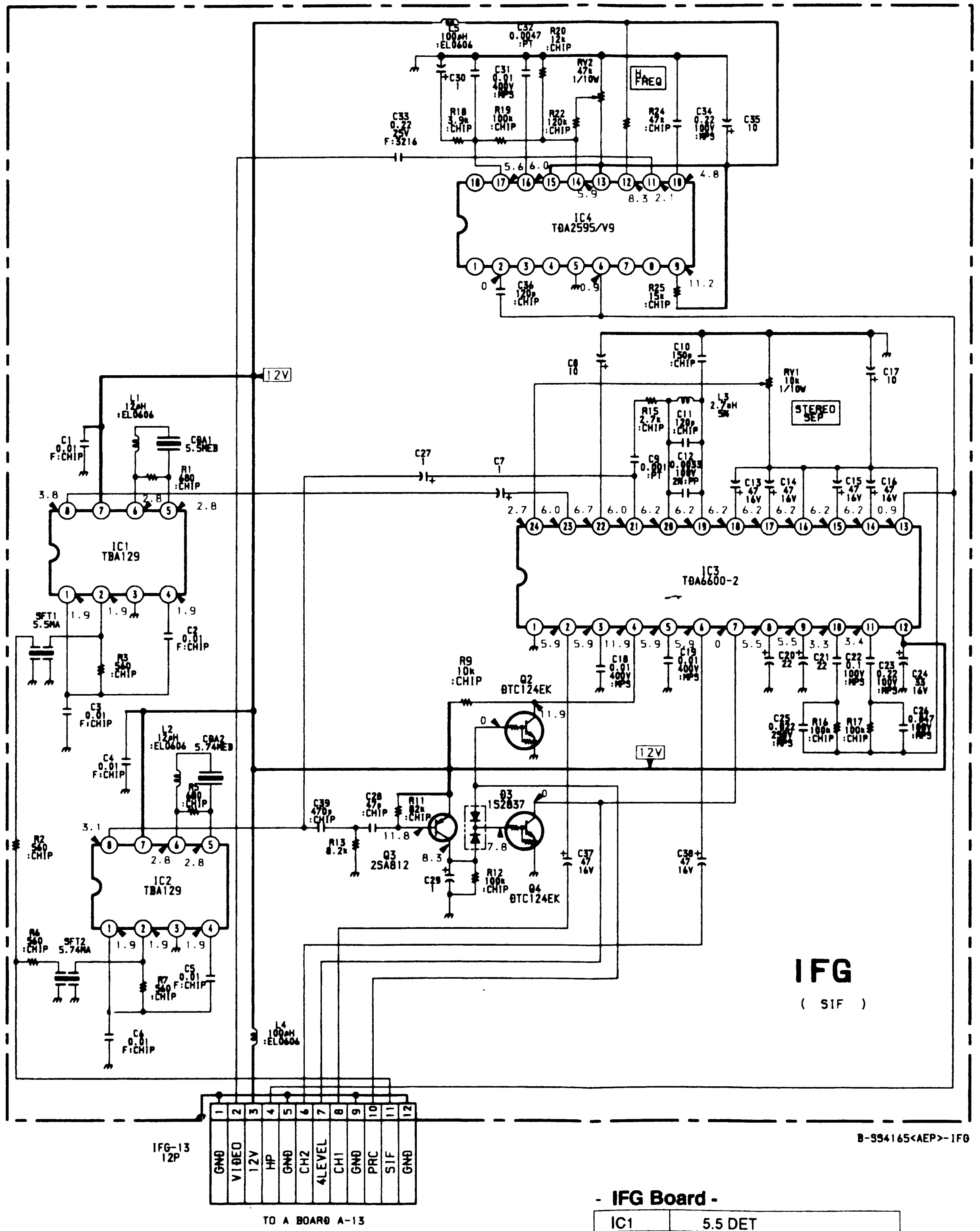
V Board

IC1	MICRO-CONT
IC2	IVT
IC3	STATIC-RAM
Q1	STAND-BY
Q2	5V REG
Q3	SYNC BUFFER
Q4	BLK OUT
Q5	B OUT
Q6	G OUT
Q7	R OUT
Q8	RESET
D1	5V REG
D3	PROTECT
D4	PROTECT
D5	PROTECT
D6	PROTECT
D7	PROTECT
D9	PROTECT




C (R. G. B OUT)
SCREEN MIN-MAX 201V-926V
H.STAT
SCREEN
TO B BOARD T802
FV
TO B BOARD B-81
H1
NC
H2
C-81 3P BLK :S-MICRO
TO B BOARD B-82
G2
200V
GND
C-82 3P WHT :MINI
WHT LARGE
C-71 2P
GND
GND
TO PICTURE TUBE COATING EARTH
Q702 JC501
Q703 BF871
Q704 2SA10910
Q705 JC501
Q706 BF871
Q707 2SA10910
Q708 JC501
Q709 BF871
Q710 2SA10910
12V
R DRIVE
G DRIVE
B DRIVE
D701 MTZJ-9.1C
D711 RGP10G
12V
B IN
G IN
R IN
GND
AUTO CUTOFF
TO B BOARD B-72
C-72 6P WHT :S-MICRO
B-594165<AEP>-C..

25 inch	29 inch
270pF	330pF
220pF	270pF
270pF	330pF
390	390
68K	68K
120K	120K
820K	470K


IC1 TBA129
IC2 TBA129
IC3 TDA6600-2
IC4 TDA2595/V9
Q2 DTC124EK
Q3 2SA812
Q4 DTC124EK
Q5 1SS237
H FREQ
STEREO SEP
12V
IFG (SIF)
IFG-13 12P
GND
VIDEO
12V
HP
GND
CH2
4LEVEL
CH1
GND
PRC
SIF
GND
TO A BOARD A-13
B-594165<AEP>-IFG

C Board

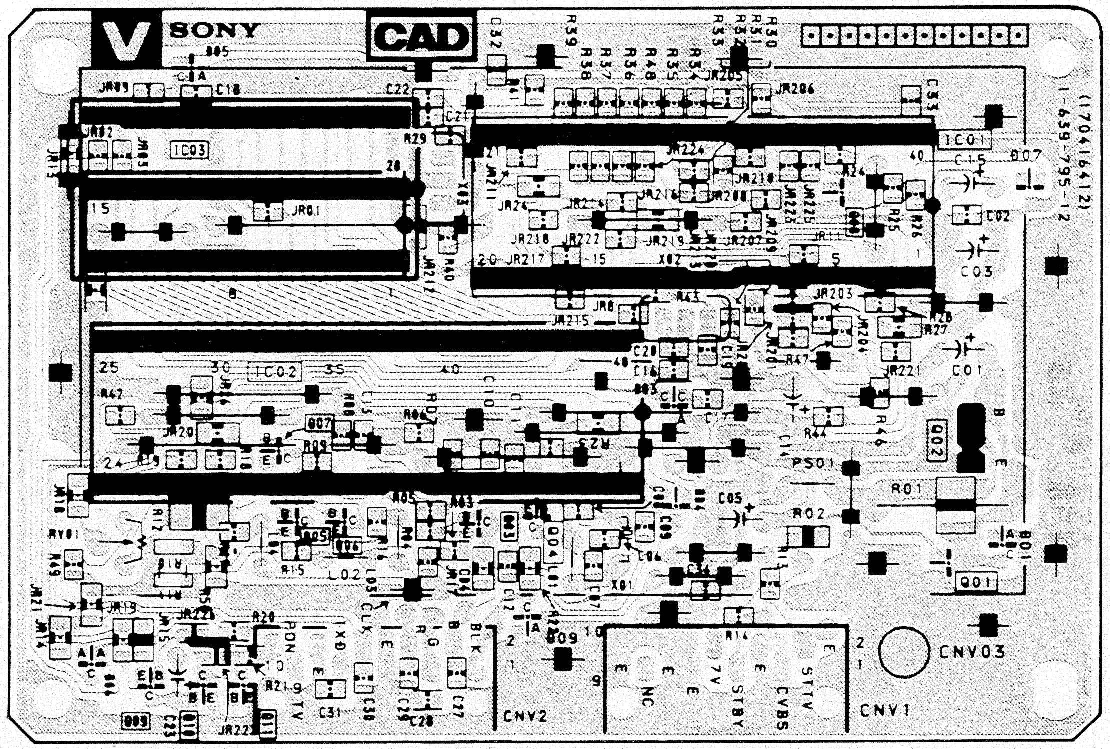
Q702	R DRIVE
Q703	R OUT
Q704	ACO MEASURING
Q705	G DRIVE
Q706	G OUT
Q707	ACO MEASURING
Q708	B DRIVE
Q709	B OUT
Q710	ACO MEASURING
D701	PROTECT
D702	PROTECT
D703	PROTECT
D704	PROTECT
D705	PROTECT
D706	PROTECT
D707	PROTECT
D708	PROTECT
D709	PROTECT
D710	PROTECT
D711	HEATER VOLTAGE REC
D713	PROTECT

- IFG Board -

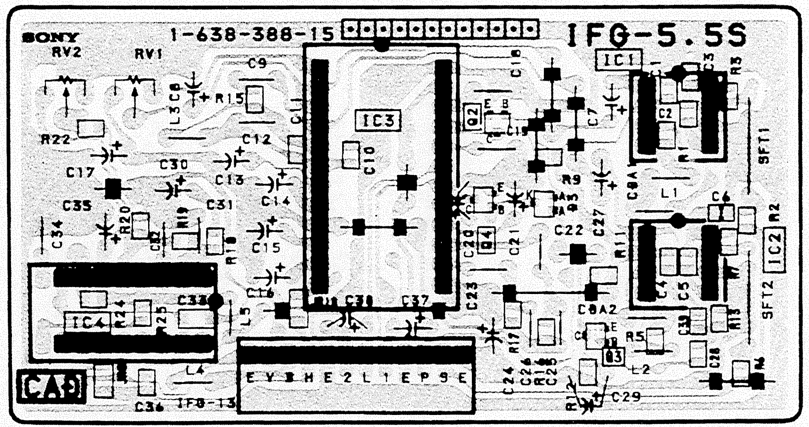
IC1	5.5 DET
IC2	SIF DET AMP
IC3	H FREQ AMP
IC4	HORIZ COMBINATION
Q2	SW
Q3	SW
Q4	SW
Q5	SW

V [TELE TEXT] **IFG** [SIF] **C** [R, G, B OUT]

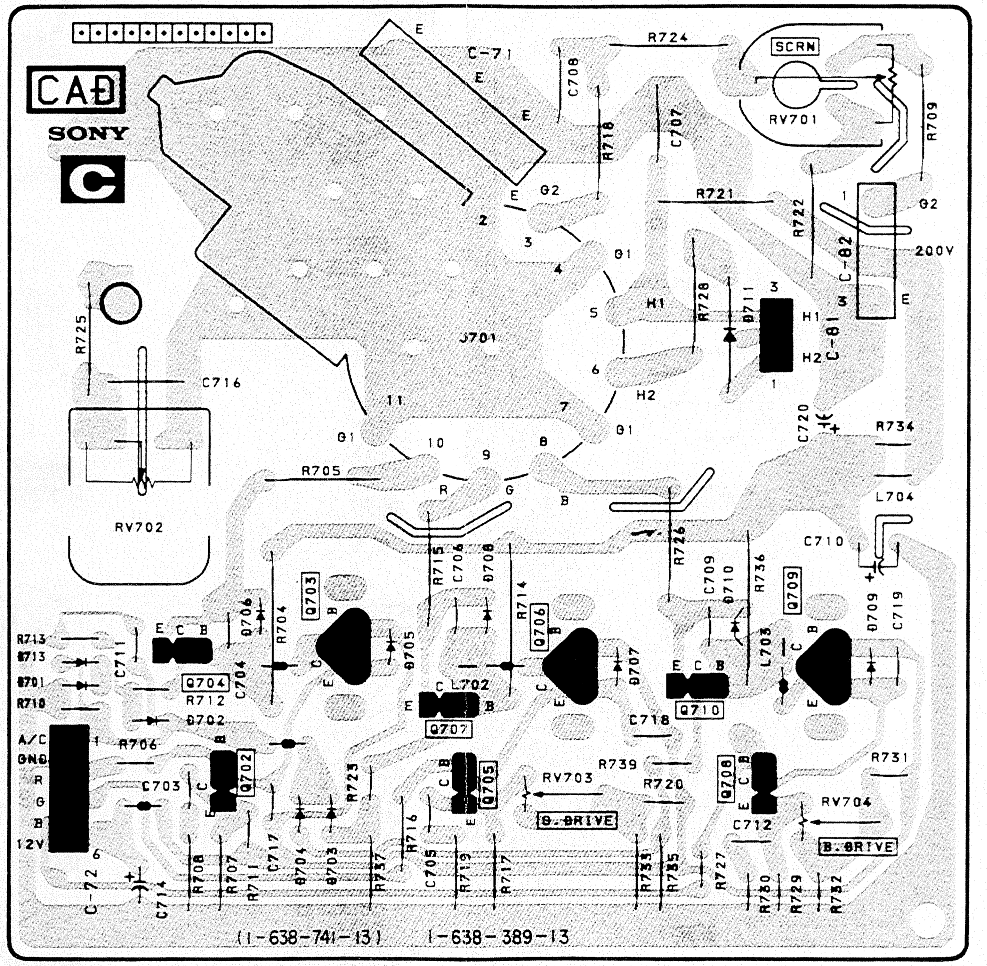
– V Board –


V
SONY
CAD
1-639-795-12
IC01
IC02
IC03
CNV1
CNV2
CNV03

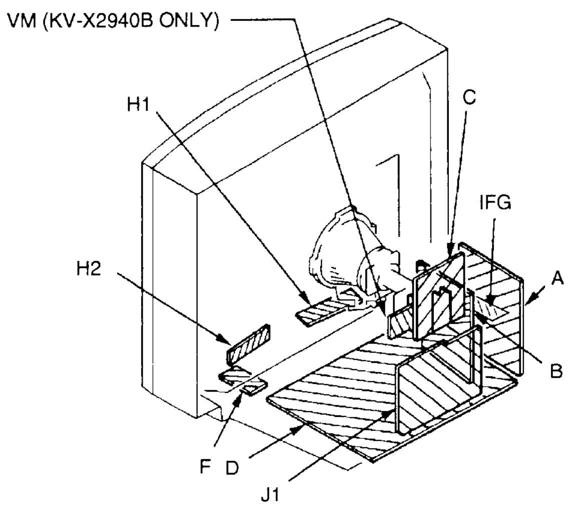
– IFG Board –


SONY
1-638-388-15
IFG-5.5S
IC1
IC2
IC3
IC4
CAD

– C Board –


CAD
SONY
C
SCRN
RV701
RV702
RV703
RV704
J701
(1-638-741-13)
1-638-389-13

5-2. CIRCUIT BOARD LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS - Conductor Side -

Note :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
  kΩ = 1000Ω , MΩ = 1000KΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm
Rating electrical power ¼ W

- ▭ : nonflammable resistor.
- △ : internal component.
- ⬚ : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth - ground.
- /// : earth - chassis.
- ┼┼ : no mounted.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with part number specified.

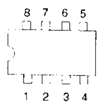
Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTABLE RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a colour-bar signal input
- Readings are taken with 10MΩ digital multimeter
- Voltages are dc with respect to ground unless otherwise noted
- Voltage variations may be noted due to normal production tolerances
- All voltages are in V.
- Circled numbers are waveform references.
- ▬ B+ bus.
- ┈ signal path (RF)

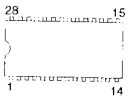
SEMICONDUCTORS

BA4558
RC4558P
TBA129
TEA2014A
TEA2031A



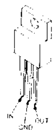
(Top view)

CXA1114P
FCB61C65L - 70P
TDA4580 - V7
TDA4650 - V4
TDA6200
TEA2028B



(Top view)

MC7812CT
TEA7605



MC14051BCP
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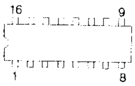
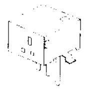
PCF8574
TDA4660V2
TDA8442 - N3
TEA2260
µPD4053BC



(TOP VIEW)

SBX1610 - 11



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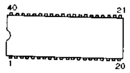
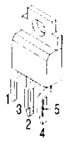


(Top view)

TDA2050



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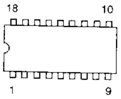
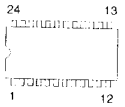


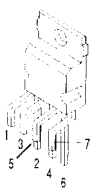
(Top view)

TDA6600 - 2

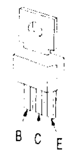


(Top view)

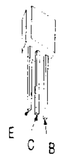
TDA8170



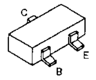
BF871



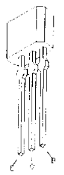
DTC144ES



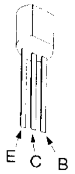
DTA144EK
DTC114EK
DTC124EK
DTC144EK
2SA812
2SA1037K
2SA1162
2SA1162 - G
2SC1623 - L5L6
2SC2412K - R



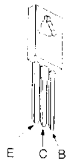
JC501
2SC2785-HFE



2SA1091- 0
2SD789 - 3
2SD789 - 34



2SA1220A - P
2SB1357 - EF
2SC2688 - LK



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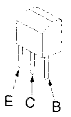
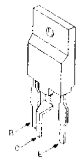
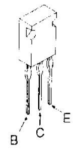
2SD774 - 34



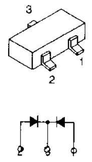
2SD1548



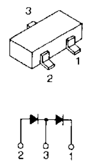
2SD2096 - EF



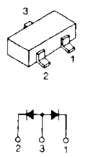
DAN202K
MA152WK



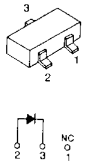
DA204K
1SS226



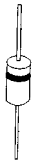
DAP202K



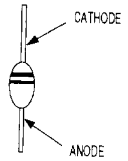
MA3036 - H
MA3056 - M
MA3068 - M
RD3.6M - B2
RD5.6M - B2
RD6.8M - B2



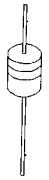
ERC06 - 15S
ERC25 - 06S
RGP10G
RU-3AM
EL-1Z
ERD28 - 08S
RGP02 - 17
ERD29 - 08J



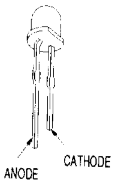
GP08D


CATHODE
ANODE

MTZJ - 11C
MTZJ - 12C
MTZJ - 4.7B
MTZJ - 5.6B
MTZJ - 5.6C
MTZJ - 6.2B
MTZJ - 6.8C
MTZJ - 7.5C
MTZJ - 9.1C
MTZJ - 15A
MTZJ - 3.9B
MTZJ - 33A
MTZJ - 36D
RD11ES - B3
RD12ES - B2
RD5.6ES - B2
RD6.8ES - B2
RD7.5ES - B2
RD9.1ES - B2
UZ-4.7BSC
1SS119
1SS133

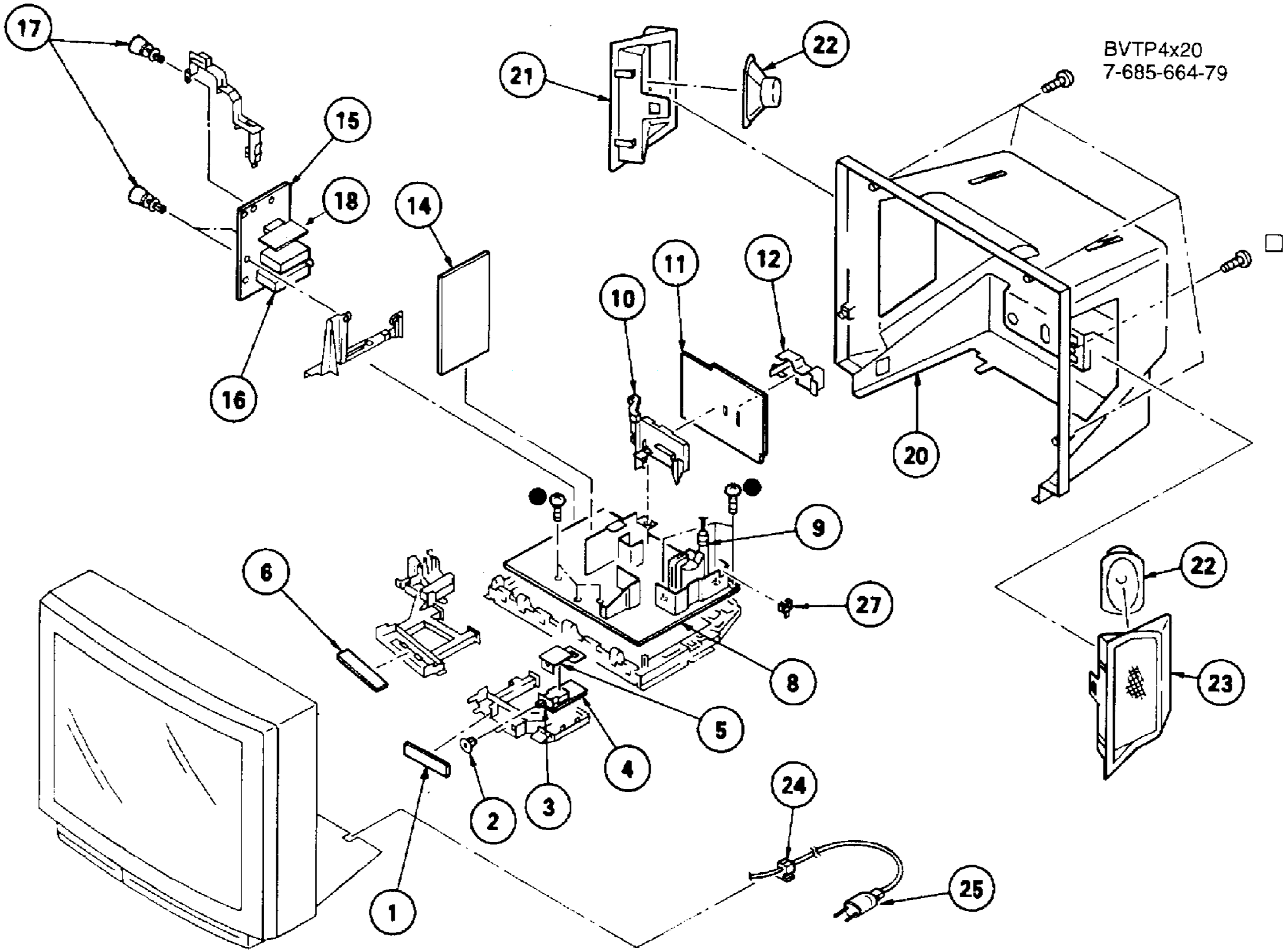


LD - 201VR


ANODE
CATHODE

: BVTP4 x 16   7-658-663-79

: BVYP4 x 20   7-658-664-79


17
15
18
14
16
21
22
BVTP4x20
7-685-664-79
□
10
11
12
20
9
27
22
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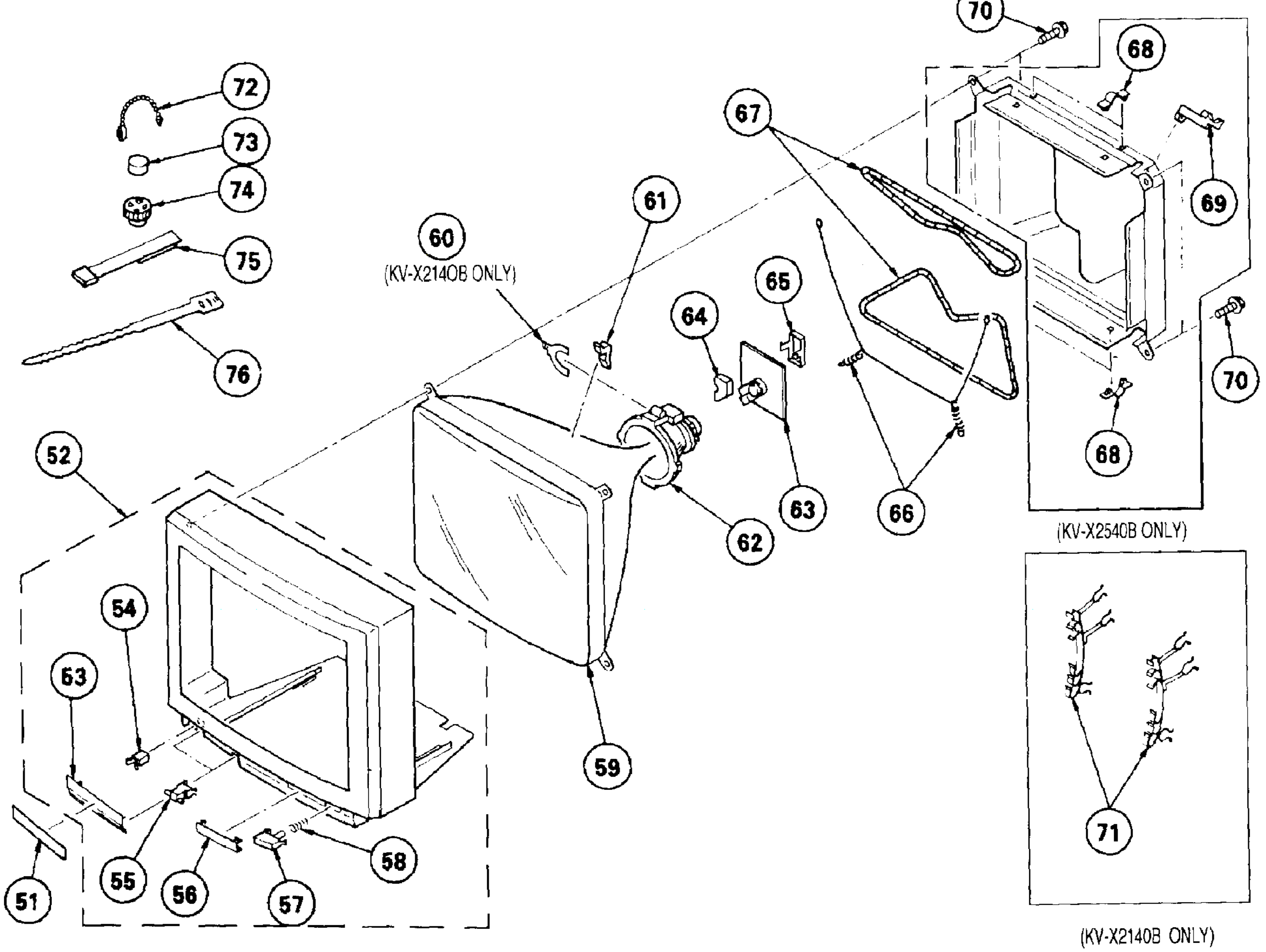
8
5
23
4
3
2
24
25
1

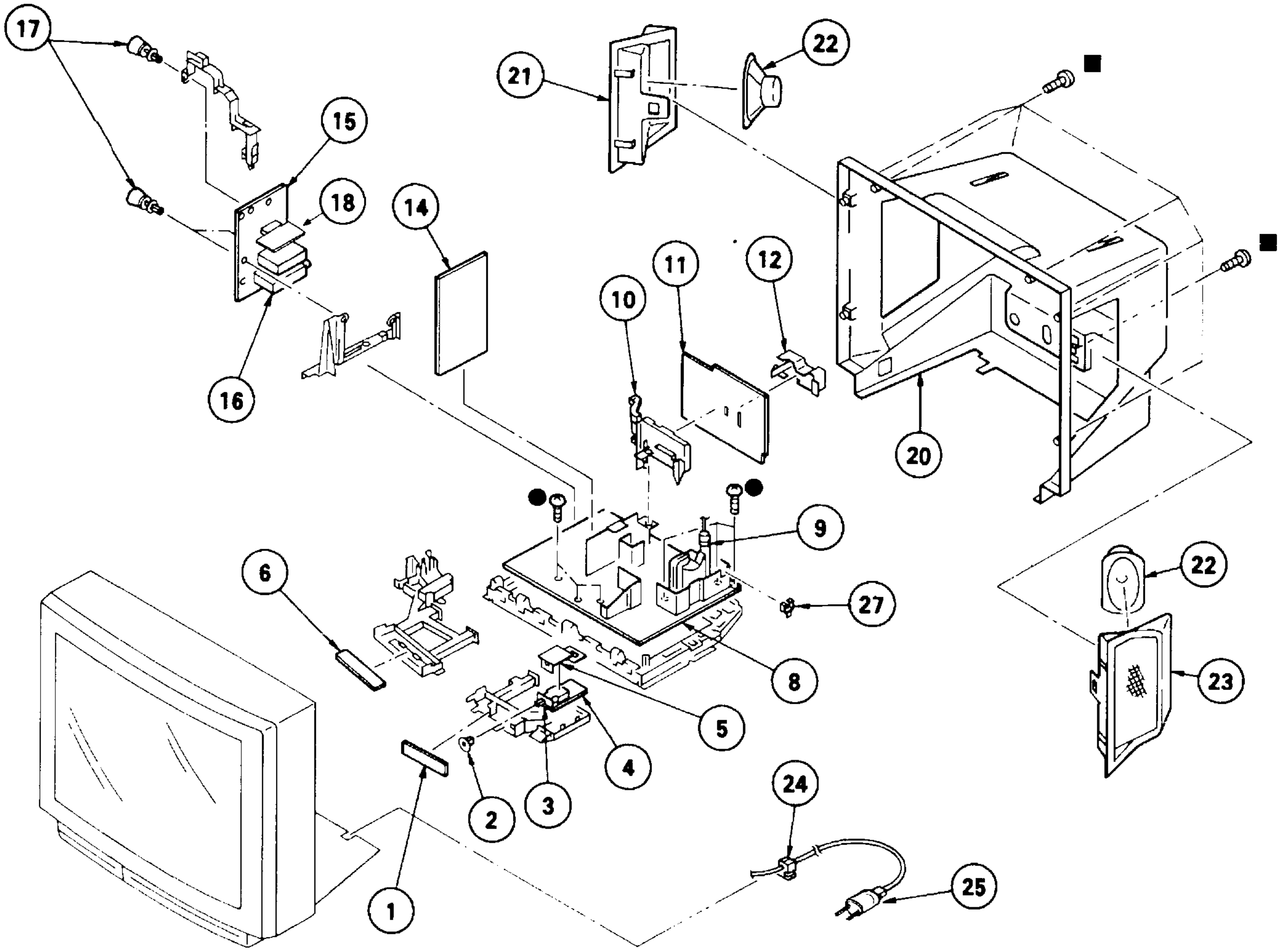

70
68
72
67
73
74
69
61
60
(KV-X2140B ONLY)
65
75
64
76
70
68
63
66
52
62
(KV-X2540B ONLY)
54
53
59
71
58
55
56
57
51
(KV-X2140B ONLY)

The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.

3. CHASSIS (KV-X2940B ONLY)

: BVTP3 x 12 7-685-648-79

: BVTP4 x 16 7-658-663-79


17
15
18
14
16
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12
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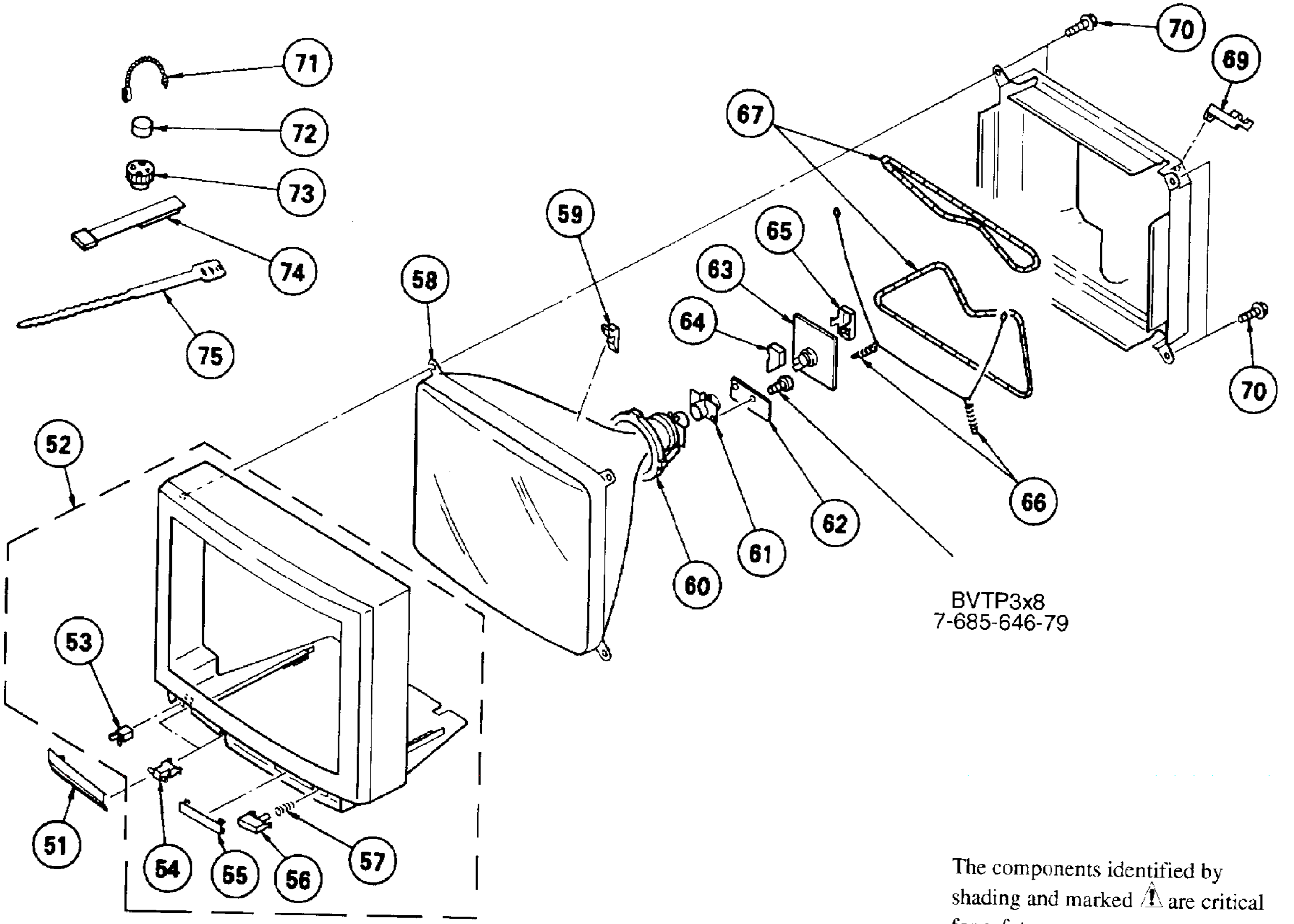
The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.


71
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54
55
56
57
BVTP3x8
7-685-646-79

The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.